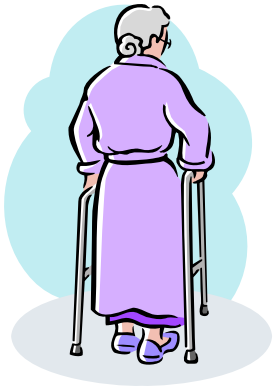
The Erie St. Clair Palliative Care Management Tool



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(3rd Edition) Version 3.2

REVISION LOG

Version No.	Version Date	Summary of Change	Changed By/Input From
3.1	21 February 2007	Change to Contributors	
3.2	2 November 2007	Page 85 - Seizure Table - 1.5 mg Fosphenytoin = 1.0 mg phentoin	H. Henke/Dr. Cargill

ERIE ST. CLAIR
PALLIATIVE CARE MANAGEMENT TOOLS

The purpose of this package of Care Management Tools for the Palliative Patient is to establish a comprehensive and standardized assessment and continuity of care guidelines.

They are to be used by the Health Care Providers in assessing patients for pain and symptom management and are intended to provide a standardized method of providing care and reporting to the attending physician.

It is understood that the most responsible physician caring for the Palliative Patient **will provide direct physician's orders** for each intervention.

We would like to thank the Waterloo Region Palliative Care Pain and Symptom Management Program for allowing Windsor-Essex County to use their Management Tools as a guideline. It is with permission that we have used their work in developing our Management Tools.

With this our third edition, we would like to acknowledge the agencies that contributed to our first and second editions.

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ERIE ST. CLAIR
PALLIATIVE CARE MANAGEMENT TOOLS

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SECTION I

GASTROINTESTINAL

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WHY DOES THIS PATIENT HAVE THIS SYMPTOM NOW?

MOUTH CARE GUIDELINES

(Dry Mouth, Mucositis, Stomatitis, Candida Infection, Herpes Infection, Bacterial Infection)

DESIRED OUTCOME: *Intact, healthy mucous membranes*

NURSING ASSESSMENT: *Assess entire oral cavity with dentures removed. Pain. Hydration Status*

	ASSESSMENT QUESTIONS	NURSING INTERVENTIONS	MEDICAL INTERVENTIONS
A. HISTORY OF PRESENTING SYMPTOM/ PHYSICAL & FUNCTIONAL ASSESSMENT	• Does the patient report sore mouth or painful swallowing? • Is the patient currently undergoing chemotherapy or receiving radiotherapy to the oral cavity or neck region? • Assess oral cavity for compromised dentition, mucositis, oral candidiasis, stomatitis, ulceration and dry mucous membranes. • Is the patient on long term Decadron or antibiotics • What is the state of oral hygiene, dentition & cavities? • Are there poor fitting dentures? • Is the patient well hydrated or dehydrated? • What is the general state of health, nutritional status? • Are these symptoms interfering with adequate oral intake? • Is there a history of smoking/alcohol? • Is the patient independent with mouth care?	• Review current medications including over-the-counter medications, vitamins & herbal remedies • If there is a risk of bacterial infection, a C&S of the suspicious area should be done. • Please use the following page in your assessment of the oral cavity for: ***Dry Mouth*** ***Mucositis/Stomatitis*** ***Candida Infection*** ***Herpes Infection*** ***Bacterial Infection***	• Please see the following page for Medical Interventions for: ***Dry Mouth*** ***Mucositis/Stomatitis*** ***Candida Infection*** ***Herpes Infection*** ***Bacterial Infection***
B. PSYCHOSOCIAL	• Assess coping skills • Consider dietary practice, habits & culture		
C. CONTACT & INFORM PHYSICIAN OF FINDINGS		• Organize the above information & report your findings to the attending Physician.	

WHY DOES THIS PATIENT HAVE THIS SYMPTOM NOW?

MOUTH CARE GUIDELINES

ASSESSMENT QUESTIONS	NURSING INTERVENTIONS	MEDICAL INTERVENTIONS
FOR DRY MOUTH • Is the saliva thick/absent? • Does the patient have a fever? • Are there swollen glands? • Is there swelling in the uvula or tongue? • Has the patient had previous radiotherapy to the neck/throat? • Is the patient well hydrated? • Are they taking any medications that could result in a dry mouth such as; analgesics, anti-emetics, anti-histamines and anti-anxiety?	• Sugar-free hard candies or Biotene Gum may stimulate saliva production • Increase fluid intake if possible • Sipping on tart liquids [cranberry juice, lemonade, frozen juice bars and sherbets (preferably sugar free)] may stimulate saliva • Encourage soft, moistened foods • sipping on soda water throughout the day may help loosen accumulating thick secretions • Use a cool mist humidifier at night • Encourage frequent oral hygiene after each meal and before bedtime using normal saline or baking soda solution (1 tsp baking soda + 1 cup water) • Frequent rinsing with baking soda solution will help to moisturize oral cavity • Avoid commercial mouthwashes containing alcohol • Use commercial oral moisturizers; Moi-Stir spray or swab sticks, Mouth-Kote, Oral Balance Gel, Biotene products (toothpaste, mouthwash, chewing gum)	• Saliva stimulants may be ordered

WHY DOES THIS PATIENT HAVE THIS SYMPTOM NOW?

MOUTH CARE GUIDELINES

ASSESSMENT QUESTIONS	NURSING INTERVENTIONS	MEDICAL INTERVENTIONS
FOR MUCOSITIS/STOMATITS • Are mucus membranes cracked, red or ulcerated? • Is there inflammation? • Does the patient c/o pain, hoarseness, difficulty swallowing, sore mouth or throat? • Has the patient had previous radiotherapy to the neck/throat? • Has the patient had recent chemotherapy?	• Good oral hygiene with normal saline or baking soda solution (1 tsp baking soda/1 c water) • Use a soft toothbrush or a foam toothette to prevent sore gums and bleeding • Rinse with baking soda solution every 2 hours • Rinse/gargle with baking soda solution prior to taking topical meds to increase effectiveness • Eat soft moist foods that are easy to chew and swallow • Add sauce, gravy or broth to foods • Avoid irritants such as acidic foods, coarse dry textures and highly salted or spiced items • Avoid foods and liquids at extreme temperatures • Use a straw to drink liquids • Discourage alcohol and tobacco use • Analgesics-See Pain Guidelines • Avoid commercial mouthwashes containing alcohol	• Special mouth washes containing antibiotics may be ordered • Topical anesthetics may be ordered • Topical morphine may be applied to raw areas
FOR CANDIDA /THRUSH • Are there white cottage cheese like patches? • Is the mucous membrane red and inflamed? • Is there alteration in taste (Dysguesia)? • Does the patient report their tongue feeling thick or furry? • Does the patient complain of sore mouth,throat or difficulty swallowing?	• Good oral hygiene NS, NaHCO3 – normal saline, baking soda solution (1 tsp baking soda/1 c water) • Administer oral antifungal medications & oral anesthetics as ordered • Clean tongue with a soft tooth brush • Rinse/gargle with baking soda solution or soda water prior to taking topical medications to increase effectiveness • Patient teaching • See Nutritional Guidelines for Dysgeusia	• Antifungal medications may be ordered. These are available in tablet and suspension preparations • Topical anesthetics may be ordered

WHY DOES THIS PATIENT HAVE THIS SYMPTOM NOW?

MOUTH CARE GUIDELINES

ASSESSMENT QUESTIONS	NURSING INTERVENTIONS	MEDICAL INTERVENTIONS
FOR HERPES INFECTIONS • Are there small vesicles filled with clear fluid on a raised base on the lips or in the mouth?	• Requires a physician assessment or order • Good oral hygiene using normal saline or baking soda solution • Administer antiviral medications & topical anesthetics as ordered • Teaching – prevention spread to family members	• Culture and sensitivity test may be ordered • Antiviral medications may be ordered • Topical anesthetics may be ordered
FOR BACTERIAL INFECTIONS • Are there ulcerations? • Is the mucus membrane inflamed? • Is there pain?	• Requires a physician assessment or order • Perform C&S as ordered • Administer antibiotics as ordered • Good oral hygiene – normal saline or baking soda solution • Administer oral anesthetics as ordered	• Culture and sensitivity test may be ordered • Oral antibiotics may be ordered • Topical anesthetics may be ordered

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WHY DOES THIS PATIENT HAVE THIS SYMPTOM NOW?

CONSTIPATION GUIDELINES

DESIRED OUTCOME: Comfortable, soft, formed BM at least every three, (3), days

NURSING ASSESSMENT: *When assessing your patient for constipation, consider the following:*

	ASSESSMENT QUESTIONS	NURSING INTERVENTIONS	MEDICAL INTERVENTIONS
A. HISTORY OF PRESENTING SYMPTOM/ PHYSICAL & FUNCTIONAL ASSESSMENT	• When was the last BM? • What is patient's usual bowel pattern? • What are the characteristics of the last stool; loose, formed, dry or hard • Is there mucous or blood in the stool? • Was passing stool painful? • Has the patient recently experienced abdominal discomfort, cramping, nausea, vomiting, pain, excessive gas or rectal fullness? • What are the current medications used for constipation? Review current medications including over-the-counter meds, vitamins and herbal remedies. • Is the patient taking medications known to cause constipation? Such as Antacids: (calcium and aluminum based) Anticholinergics: gastrointestinal antispasmodics, ant parkinsonism agents, (Dicylomine, Propantheline, Bexztropine) Antihypertensive agents: Reserpine, Clonidine Antiemetics (Ondansetron or Zofran, Kytril) Antihistamines Barium Sulfate Calcium channel blockers (Verapamil) Calcium supplements Diuretics Ganglionic blockers Iron supplements Monamine oxidase inhibitors (Chlorpromazine, Phenothiazine) Opiates Psychotropic drugs Tricyclic antidepressants Vinca alkaloid chemotherapy drugs (Vincristine, Vinblastine, Oxaliplatins, taxanes) Thalidamide	• Health teaching regarding constipation management and prevention • Patients receiving narcotics should also receive a preventative bowel regime • If constipation **is narcotic induced** do not use bulk forming laxatives such as psyllium capsules and Metamucil® • If constipation is **not narcotic induced** encourage a gradual increase in dietary fibre and natural laxatives such as prunes, prune juice, rhubarb and fibre spread Fibre Spread 2 cups All-Bran Cereal® 2 cups applesauce 1 cup prune juice • Encourage a fluid intake of 1500-2000 ml/day • Encourage activity • Encourage small, frequent feedings throughout the day • Create a favourable environment for toileting • Avoid bedpans • Keep record of bowel habits • Observe abdomen for distention • Digital rectal exam (caution if low WBC or Platelet count) • **DO NOT USE SUPPOSITORIES OR ENEMAS IF LOW WBC OR PLATELET COUNT** • Teach regarding the appropriate use of stool softeners, stimulants, laxatives and/or enema use • **Reinforce compliance** • Teach laxative effect may take 12-24 hrs • Treat anal fissures and hemorrhoids as directed • Teach appropriate suppository insertion technique • Teach that burning sensation from suppository will resolve within 5-10 minutes	• Medications may be ordered based on the symptoms and severity of the constipation. • Anti-anxiety medications may be ordered • Bowel Regime ie. stool softeners, laxative orders, enemas • Hemorrhoid medications • Hydration therapy if appropriate • Pain management • Abdominal x-ray to assess the severity of the constipation (extent of fecal loading) and to rule out mechanical obstruction

WHY DOES THIS PATIENT HAVE THIS SYMPTOM NOW?

CONSTIPATION GUIDELINES

DESIRED OUTCOME: Comfortable, soft, formed BM at least every three, (3), days

NURSING ASSESSMENT: *When assessing your patient for constipation, consider the following:*

	ASSESSMENT QUESTIONS	NURSING INTERVENTIONS	MEDICAL INTERVENTIONS
	• Does the patient have disease involving the bowel; colon, anal fissures, irritable bowel syndrome? • is the patient hyercalcemic or hypokalemic? • Listen for bowel sounds • Are there external hemorrhoids? • Assess fibre content of diet • Assess volume of fluid intake • Assess for signs of dehydration • Pain Assessment • Assess Activity Level • Is there associated nausea and vomiting? • What is the frequency of stools in a 24-hour period? Date, time and length between BM's		
B. PSYCHOSOCIAL	• Is the patient depressed? • Does the patient have adequate time and privacy for toileting?		
C. CONTACT & INFORM PHYSICIAN OF FINDINGS.		• Organize the above information & report your findings to the attending Physician.	

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WHY DOES THIS PATIENT HAVE THIS SYMPTOM NOW?

DIARRHEA GUIDELINES

DESIRED OUTCOME: *Comfortable, soft, formed BM. Anal and perineum skin integrity maintained.*

NURSING ASSESSMENT: *When assessing your patient for diarrhea, consider the following:*

	ASSESSMENT QUESTIONS	NURSING INTERVENTIONS	MEDICAL INTERVIENTIONS
A. HISTORY OF PRESENTING SYMPTOM/ PHYSICAL & FUNCTIONAL ASSESSMENT	• What is the frequency of stools in a 24-hour period? Date, time and length between BM's • What is their normal bowel pattern? • What is the consistency? • Is there blood, mucus or a foul odor? • Are the bowel movements painful? • Review current medications including over-the-counter meds, vitamins & remedies. • Review medications that may cause diarrhea such as: **Medications that may contribute to Diarrhea** • liquid medications containing sorbitol • magnesium containing antacids • cholinergic drugs • prokinetic agents • laxatives and stool softeners • Cytotec • Lactulose • antibiotics • chemotherapeutic agents • Is the patient currently undergoing chemotherapy? • Is the patient currently receiving radiotherapy to the abdominal or pelvic area? • Are there pre-existing conditions i.e. pancreatic insufficiency, short gut syndrome, GI infections, colitis, colon tumour, etc • Does the patient have an ileostomy or colostomy? • Does the patient have hypoalbuminemia? • Is the patient exhibiting signs and symptoms of dehydration? • Is there associated nausea and vomiting, cramping or pain? • What is the current fluid intake? (See Dehydration Guidelines for fluid requirements) • Observe abdomen for distention & listen for bowel sounds - palpate abdomen for stool in colon • Digital rectal exam for presence of hard stool (**Caution with Low WBC or Platelet Count)**	• Rectal exam unless risk of neutropenia to rule out fecal impaction • Health teaching re diarrhea • Care of irritated skin – critical in neutropenic patients • self-administration of prescribed anti - diarrheal medications. • Teach to report signs and symptoms of antidiarrheal medication reactions i.e. drowsiness, sedation, lethargy, pruritus, rash. • Assist in relaxation techniques to lower anxiety. • Monitor & report abnormal lab results if appropriate. • Teach patient and family to report diarrhea or associated fever that persists greater than 48 hours • Ensure lost fluids and electrolytes are replaced • **Request Registered Dietitian consult if diarrhea persists & as appropriate** **DIET MODIFICATIONS** • Increase fluid intake to 1500-2000 mL/d • If on tube feeds, consider reducing volume, rate & frequency of enteral feedings • Consult with Dietitian as necessary • Encourage low fibre, white refined bread, cereals, pasta, rice • Serve fruits with skin, seeds & membranes removed, apricot, peaches, nectarine, grapes, mango, watermelon, orange, banana, grapefruit, cantaloupe, honeydew, and applesauce • Vegetables must have skins & seeds removed: asparagus tips, carrots, cucumber, eggplant & zucchini	• **Medications that may be ordered based on the symptoms and severity of the diarrhea:** ➢ Opiod, loperamide, diphenoxylate ➢ Absorbent – Kaolin ➢ If indicated labwork to monitor for electrolyte imbalance or dehydration ➢ Hydration therapy if appropriate

WHY DOES THIS PATIENT HAVE THIS SYMPTOM NOW?

DIARRHEA GUIDELINES

DESIRED OUTCOME: *Comfortable, soft, formed BM. Anal and perineum skin integrity maintained.*

NURSING ASSESSMENT: *When assessing your patient for diarrhea, consider the following:*

	ASSESSMENT QUESTIONS	NURSING INTERVENTIONS	MEDICAL INTERVIENTIONS
	• Assess anal & perineum skin integrity for irritation, excoriation & denuded skin • Are there external hemorrhoids? • Is the patient on enteral feedings? • Assess activity level (PPS) • Assess pain level • Has the presence of diarrhea interfered with ADLs?	• Replace milk with lactose-free products or soy milk if milkt precipitates diarrhea • Limit gas forming foods such as cauliflower, broccoli, green pepper, onions and cucumbers • Avoid the use of straws	
B. PSYCHOSOCIAL	• Assess if the client response to stress is with diarrhea symptoms • Is there a high anxiety level? • Is self-esteem lowered because of the necessity of wearing diapers?		
C. CONTACT & INFORM PHYSICIAN OF FINDINGS		• Organize the above information & report your findings to the attending Physician.	
		• Fluid replacement with Gatorade, clear broths, Jell-O, Popsicles or caffeine-free soft drinks	

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WHY DOES THIS PATIENT HAVE THIS SYMPTOM NOW?

DIARRHEA GUIDELINES

DESIRED OUTCOME: *Comfortable, soft, formed BM. Anal and perineum skin integrity maintained.*

NURSING ASSESSMENT: *When assessing your patient for diarrhea, consider the following:*

	ASSESSMENT QUESTIONS	NURSING INTERVENTIONS	MEDICAL INTERVIENTIONS

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WHY DOES THIS PATIENT HAVE THIS SYMPTOM NOW?

NAUSEA AND VOMITING GUIDELINES

DESIRED OUTCOME: *Relief and control of the symptom of nausea and vomiting*

NURSING ASSESSMENT: When assessing your patient for nausea and vomiting, consider the following:

	ASSESSMENT QUESTIONS	NURSING INTERVENTIONS	MEDICAL INTERVENTIONS
A. HISTORY OF PRESENTING SYMPTOM/ PHYSICAL & FUNCTIONAL ASSESSMENT **Level 0 – No complaints** **Level 1 – Mild intermittent Nausea ⇓ intake** **Level 2 – Nausea, Hungry & not eating** **Level 3 – Vomits 1-3 X /day** **Level 4 – Vomits 4-6 X /day** **Level 5 – Intractable N&V**	• How long has the N&V been present? • Is the patient vomiting or just nauseated? • Is there a known malignancy or mets involving the GI tract, liver, brain or CSF? • Is pt currently receiving chemotherapy or radio to the fields including the GI tract or brain? • Review current medications including over-the-counter meds, vitamins & herbal remedies • Review current medications that may cause nausea such as opioids, digitalis, antibiotics, antifungal agents, iron preparations, SSRI's, NSAIDS, ASA • Is the patient constipated? When was the last BM? • Are there symptoms of a bowel obstruction, ⇑ intracranial pressure, hypercalcemia, infection, hyperglycemia, renal or hepatic dysfunction? • Does the client feel hungry but cannot eat? • Does the smell of food induce nausea? • Is the client able to retain oral medications? • What is the pattern of N&V – onset, frequency, precipitating, aggravating, & alleviating factors? • Is there an infectious process suspected? • What is the volume, colour and consistency of emesis? is it projectile? • Are there Inner ear issues? • Assess pain – see **Pain Guidelines** • Consider silent MI • Assess PPS	• Assess vital signs and levels of consciousness • Monitor intake, urinary output, I/O's • Inspect skin turgor, dryness of mouth, increased temperature • Monitor bowel habits – see bowel Guidelines • Monitor for other symptoms of G.I. distress – heartburn, feeling of fullness & cramping • Inspect mouth- see mouth care Guidelines • If very problematic – consider social work • Reassess and modify until nausea is controlled • **Environment** – maintain cool, well ventilated room avoiding exposure to noxious smells or sights, vomitus removed quickly & follow with good mouth care • Rinsing with Ginger-Ale or Baking soda solution – (1 tsp soda – 1 cup water), can help to remove foul taste • **Food –** offer frequent small servings of food, replace fluid loss with electrolyte-rich cool liquids (Gatorade, non-acidic fruit juices & nectars, flat ginger ale, Popsicles) – **See Diet Recommendations** • Consider Dietary Consult • **Movement and position changes** – change position slowly, support patient with pillows, with retching avoid stimulating gag reflex, elevate head of bed • **Relaxation techniques** – teach deep breathing, cool compresses to back of neck and forehead – relaxation tapes • **Administer Antiemetics and Prokinetics** around the clock per physician's orders during periods of increased risk of N&V • **Teach patient & family** to report signs & symptoms of N&V	• Consider regular dosing of antiemetics • **In addition to Antiemetic Medications, the Physician may order one of the following:** • **Recent chemotherapy** Anti emetics, oncology suppositories (such as DBMHA), or steroids. • **Change in drug treatment –** discontinue noxious medication • **Biochemical –** check serum electrolytes, BUN, Creatinine, Ca (total with albumin or ionized) • **Medication** levels, i.e., digoxin, theophylline, carbamazepine, phenytoin • **Esophageal irritation**, **reflux/gastritis**- antacids, Histamine H2 Receptor Antagonist • **Bowel Obstruction** – G tube, NG tube • **Octreotide – this reduces the amount of gstric secretions**. Not ODB covered. Expediated Section 8 coverage • **Decreased GI motility –** GI motility modifier • **Anticipatory** – Anti-anxiety medications • **Increased intracranial pressure** – Steroids • **Vestibular** – Anticholinergic, anti-histamine

WHY DOES THIS PATIENT HAVE THIS SYMPTOM NOW?

NAUSEA AND VOMITING GUIDELINES

DESIRED OUTCOME: *Relief and control of the symptom of nausea and vomiting*

NURSING ASSESSMENT: When assessing your patient for nausea and vomiting, consider the following:

	ASSESSMENT QUESTIONS	NURSING INTERVENTIONS	MEDICAL INTERVENTIONS
B. PSYCHOSOCIAL	• Is there increased tension or anxiety? • What are their coping strategies? • Are there noxious stimuli (cooking odours) • Is it anticipatory N&V? • What is the meaning of N&V to family? • What is the impact of N&V on ADL, relationships & lifestyle? • What are the past self-care strategies that helped in the management of N&V • Assess patient and family's compliance with antiemetic regimen & effectiveness of prescribed antiemetics		
C. CONTACT & INFORM PHYSICIAN OF FINDINGS		• Organize the above information & report your findings to the attending Physician.	

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ENVIRONMENTAL AND NUTRITIONAL CONSIDERATIONS – NAUSEA AND VOMITING

Consider a Referral to the Community CCAC or WRCC Dietitian for Nutrition Counselling

FOODS & BEVERAGES RECOMMENDED

- **frequent sips of clear, non-acidic liquids such as flat Ginger-Ale, ginger tea, grape and apple juice, non-carbonated drinks such as fruit punch, sports drinks, cooled broth**
- **liquids should be served at cool or room temperature**
- **flavoured ices, flavoured gelatin, Popsicles, sherbet**
- **refined starchy foods such as boiled or baked potatoes, soda crackers, dry toast, pretzels, plain rice or pasta**
- **cool foods with little or no aroma such as cottage cheese, canned fruit**

FOOD & BEVERAGES TO AVOID

- **high fat or heavily spiced items**
- **excessively sweet foods**
- **foods that have a strong odour**
- **preferred foods during periods of nausea and vomiting as this may contribute to an aversion later**
- **hot and cold foods/liquids at the same meal**

ENVIRONMENTAL

- **liquids should be taken 30 minutes following intake of solid food**
- **small portions frequently throughout the day**
- **meals should be consumed in a well ventilated, non-threatening environment**
- **encourage a slow rate of feeding**
- **remove patient from area of food preparation**
- **avoid lying down for at least two hours following a meal**
- **encourage loose clothing**
- **meals should be taken in an upright position**
- **short walks following a meal can help to facilitate gastric emptying**

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WHY DOES THIS PATIENT HAVE THIS SYMPTOM NOW?

UNINTENTIONAL WEIGHT LOSS AND/OR POOR APPETITE GUIDELINES

Desired Outcome: *To consume adequate nourishment sufficient to support the patient's desired level of function*.

Nursing Assessment: *When assessing your patient for nutrition concerns, consider the following*:

	ASSESSMENT QUESTIONS	NURSING INTERVENTIONS	MEDICAL INTERVENTIONS
A. HISTORY OF PRESENTING SYMPTOM/ PHYSICAL & FUNCTIONAL ASSESSMENT	• Has the patient lost weight? How much? ➢ Severe Loss: Greater than or equal to 5% over 1 month or 10% over 6 months ➢ Moderate Loss: Less than or equal to 5% over 1 month or less than 10% over 6 months ➢ Mild: Weight is stable • Is the patient at risk for malabsorption? • Is intake ⇓ secondary to constipation? • Is intake ⇓ secondary to poor pain control? • Does the patient have diabetes? • Does the patient report loss of appetite? • Does the patient complain of early satiety? • Pain assessment • Assess PPS,ESAS	**FOR WEIGHT LOSS/ANOREXIA/EARLY SATIETY** • Refer to Registered Dietitian if weight loss severe & patient desires intervention • Encourage small portions (even 2-3 tbsp) q2-3h as tolerated • Frequent feedings will increase gastric motility which will help decrease potential for early satiety and aid in stimulating appetite • Emphasize calorie/protein rich foods: milk & milk products (pudding, custards, milkshakes, cheese) fish, poultry, eggs- • Generous use of fats (butter, margarine, gravy, sauces, cream) • Augment beverages & food items with instant skim milk powder: 2-4 tbsp per cup of fluid or semi-fluid food: milkshakes, cream soups, puddings, scrambled eggs, hot cereal, casseroles, mashed potatoes etc. • Commercial liquid supplements can be taken in divided doses throughout the day – available in 1.0, 1.5 & 2.0 kcal/ml variety • Clear liquid supplements may be better tolerated than supplements that have a creamy consistency • If supplements not preferred try serving them over crushed ice, blending with ice cream or diluting with skim milk or water. Serving supplements in a covered beverage container with a straw may be necessary to improve tolerance • Carbohydrate reduced nutritional supplements are available for patients with diabetes • Regular liquid supplements may be used for those with diabetes and poor oral intake if glycemic control is satisfactory • Monitor stools for foul odour or oily appearance • Refer to constipation guideline if needed	• Appetite stimulants may be ordered such as megesterol, steroids, cannabanids • Digestive enzymes may be necessary if malabsorption exists
B. PSYCHOSOCIAL	• Do patient/ family equate food with improved outcome? • Are family members expecting the patient to consume amounts greater than tolerable? • Is the patient discouraged with poor intake &/or others' expectations re food	• Acknowledge that artificial or supplemental feeding in the end stages will not improve outcome or weight status • Explain to caregivers that too much encouragement can increase the patient's anxiety and further depress appetite	
C. CONTACT & INFORM PHYSICIAN OF FINDINGS		• Organize the above information & report your findings to the attending Physician.	

WHY DOES THIS PATIENT HAVE THIS SYMPTOM NOW?

DYSPHAGIA GUIDELINES

Desired Outcome: *To achieve comfortable and safe swallowing of appropriate textures and consistencies without aspiration*

Nursing Assessment: *When assessing your patient for swallowing difficulties, consider the following:*

	ASSESSMENT QUESTIONS	NURSING INTERVENTIONS	MEDICAL INTERVENTIONS
A. HISTORY OF PRESENTING SYMPTOM/ PHYSICAL & FUNCTINAL ASSESSMENT	• Does the patient report pain or other difficulty swallowing? • Does the patient have difficulty swallowing medications? • How long has the patient experienced swallowing difficulty? • Is there a neurological disorder, cognitive impairment or mechanical abnormality that may impact swallowing ability? • Does the patient have difficulty managing their secretions? • Is the patient short of breath? • Is the swallowing more difficult during periods of fatigue? • Is dry mouth interfering with swallowing? • Has there been recent weight loss? • Does it take more than 30 minutes to complete a meal? • Is there evidence of thrush? - Refer to Mouth Care Guidelines for candidiasis • Is the patient SOB or fatigued during and/or after a meal? • Is the patient febrile? • Are the lungs clear? • Does the patient complain of reflux? • Has there been a history of pneumonia? • Any changes to dentition? (i.e., denture fit, missing teeth?) • Is the patient able to feed himself? • What is the current oral intake? • Observe for drooling, pocketing of food in cheeks or under tongue, poor control of tongue movements, poor lip closure, increased time to swallow, coughing or choking at meals, nasal regurgitation, wet or gurgly voice during or after swallowing liquids/food, complaints of food getting stuck • Assess entire oral cavity with dentures removed	• Review medication profile – check for those that may affect swallowing (e.g.: anticholinergics, antidepressants, antihistamines, antihypertensives, diuretics) • Replace meds with liquid equivalents if available or crush meds if not contradicted & administer via a semi-solid medium (applesauce or pudding) as appropriate • Encourage intake during periods of wakefulness. • Adequate respiratory support is important • If patient is receiving meals in bed, elevate head 45 degrees or greater • Keep patient at 45 degrees or greater for 30 min. pc meals • Refer to Unintentional Weight Loss and/or Poor Appetite Guidelines for weight loss • Request order for a Dysphagia assessment to be performed by a Speech Language Pathologist • Adapted feeding utensils may be recommended by a Speech Language Pathologist or Occupational Therapist • Implement recommendations from Dysphagia assessment • Do not recommend thickened fluids unless indicated by a formal swallowing assessment • Try pureed foods, add gravy or sauces to ease swallowing • Instruct to provide small amounts (1/2 to 1 tsp) at a time – use a small spoon • Patient should be fed in an upright position unless otherwise directed	Consider the following: • Dysphagia assessment • Modified Barium swallow may be recommended • Chest x-ray may be ordered to rule out aspiration pneumonia

WHY DOES THIS PATIENT HAVE THIS SYMPTOM NOW?

DYSPHAGIA GUIDELINES

Desired Outcome: *To achieve comfortable and safe swallowing of appropriate textures and consistencies without aspiration*

Nursing Assessment: *When assessing your patient for swallowing difficulties, consider the following:*

	ASSESSMENT QUESTIONS	NURSING INTERVENTIONS	MEDICAL INTERVENTIONS
B. PSYCHOSOCIAL	• Is there a high anxiety level associated with eating? • Is the patient refusing meals due to difficulty experienced with eating or embarrassment resulting from eating in front of others? • Does the patient have difficulty maintaining attention? • Are they very distractible?	• Teach family safe feeding strategies (position, rate of feeding, bolus size) per recommendations of Dysphagia assessment • Allow relaxed atmosphere free of distractions for meals	
C. CONTACT & INFORM PHYSICIAN OF FINDINGS		• Organize the above information & report your findings to the attending Physician	

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WHY DOES THIS PATIENT HAVE THIS SYMPTOM NOW?

DEHYDRATION GUIDELINES

Desired Outcome: *To consume adequate fluid sufficient to prevent/treat dehydration*
Nursing Assessment: *When assessing your patient for hydration concerns, consider the following*:

	ASSESSMENT QUESTIONS	NURSING INTERVENTIONS	MEDICAL INTERVENTIONS
A. HISTORY OF PRESENTING SYMPTOM/ PHYSICAL & FUNCTIONAL ASSESSMENT	• What volume of fluid is the patient consuming? • Does the patient have a fever? • Does the patient have increased losses (diarrhea, vomiting, excessive sweating or wound drainage, ostomy output? • Is the patient hyperventilating? • Does the patient exhibit clinical signs of dehydration? • Is there poor skin turgor, dry mucus membranes? • Is there a decreased urinary output? • Is the urine concentrated? • Does the patient complain about increased or decreased thirst? • Is the patient confused or experiencing a change in mental status? • Assess PPS • Assess PPI	• Review current medications including over the counter and herbal remedies • Monitor BP lying and standing • Fluid requirement is based on weight and age as follows; 35 ml/kg (25-50 yrs) 30 ml/kg (50-75 yrs) 25 ml/kg (greater than 75 yrs) • Request blood work depending on goals of care • Encourage frequent consumption of small volumes of liquids; water, milk, fruit juice, fruit beverages, soup, sports drinks, Jell-O, pudding, ice cream, sherbet, Popsicles • Assess for fluid overload if rehydration is given (crackles, SOB, peripheral edema – signs of CHF • Ongoing reassessment of the goal of hydration • **Health teaching regarding the effects of dehydration in the dying process**	• IV or SQ Hydration may be appropriate • Serum biochemistry (electrolytes, BUN, creatinine), serum albumin may be ordered
B. PSYCHOSOCIAL	• **Assess the goal of hydration** • Assess for anxiety, depression or alteration in mood		
C. CONTACT & INFORM PHYSICIAN OF FINDINGS		• Organize the above information & report your findings to the attending Physician.	

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WHY DOES THIS PATIENT HAVE THIS SYMPTOM NOW?

DYSGEUSIA GUIDELINES – (Pronounced **dis-guz′-ēă**) – or - ALTERED TASTE GUIDELINES

Desired Outcome: To enhance the taste and enjoyment of food

Nursing Assessment: When assessing your patient for nutrition concerns, consider the following:

	ASSESSMENT QUESTIONS	NURSING INTERVENTIONS	MEDICAL INTERVENTIONS
A. HISTORY OF PRESENTING SYMPTOM/ PHYSICAL & FUNCTIONAL ASSESSMENT	• Is the patient currently receiving chemotherapy and/or radiation therapy to the head and neck region? • Does the patient have xerostomia? (Absence of saliva) • Does the patient have dental caries, candidiasis or mucositis? • Does the patient have a brain cancer that involves the 5th, 7th, 9th or 10th cranial nerve which can cause the dysgeusia? • Is the patient eating or drinking less? • Have they lost weight? • Are they dehydrated? • Is this alteration in taste affecting oral intake? • Does the patient report any of the following taste alterations: salty, sweet, metallic and/or bitter?	• Refer to Mouth Guidelines (Dry Mouth) if applicable • Refer to Mouth Guidelines for Oral Candida if applicable • Review current medications including over the counter and herbal medications • Encourage frequent dental assessments if xerostomia is present • Encourage oral rinse with baking soda solution (1 tsp baking soda and 1 cup water) flavoured soda water, or Ginger-Ale before and after meals • Assess oral cavity for compromised dentition, mucositis, oral candidiasis, stomatitis and ulceration • Refer to Mouth Care Guidelines as appropriate • Cool, bland, non-odourous foods are best tolerated • If red meat tastes bitter, replace with chicken, fish, legumes, cheese or eggs • Add spices to enhance flavour • Tart foods (lemonade, pickles, cranberry juice) may stimulate saliva • Sip on ginger ale, suck on a lemon or sugar-free lemon candy to offset a bad taste in the mouth • Add sugar to foods that taste excessively salty • Add salt to foods that taste excessively sweet • Use plastic utensils – avoid drinking from cans if metallic taste exists	• Saliva stimulators may be ordered • Antifungals PRN • If medication related – consider suitable alternatives
B. PSYCHOSOCIAL	• Is the patient expressing a decrease in the enjoyment of foods? Especially favourite foods? • Is the patient hungry, but finds food unappealing? • Is the patient anxious or depressed about the loss of the taste sense? • Does the patient see this as yet another loss? • What are the coping mechanisms of the family related to the patient's lost interest in eating?	• Allow time for verbalization of the patient and family concerns related to the lost sense of taste • Take value in the patients verbalized sense of loss and acknowledge this as psychologically and physiologically important • When discussing the importance of nutrition include the importance of enjoying meals – understand the quality of life, cultural and social aspects of eating	
C. CONTACT & INFORM PHYSICIAN OF FINDINGS		• Organize the above information & report your findings to the attending Physician.	

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SECTION II

PSYCHOSOCIAL

PEARLS – **SECTION X**

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ACUTE ANXIETY GUIDELINES

DESIRED OUTCOME: *Relief of vague, uneasy feeling of apprehension or dread*
NURSING ASSESSMENT: *When assessing your patient for anxiety, consider the following:*

	ASSESSMENT QUESTIONS	NURSING INTERVENTIONS	MEDICAL INTERVENTIONS
A. HISTORY OF PRESENTING SYMPTOM/ PHYSICAL & FUNCTIONAL ASSESSMENT	• Is the patient experiencing palpitations, dyspnea, dry mouth, nausea or diaphoresis? • Are there contributing factors? I.e. pre death anxiety, environmental stimuli, upcoming tests/ procedures/treatments, excessive caffeine intake? • Any previous negative experiences? • What are their past coping skills? • What is the duration, frequency? • Are they able to follow commands? • What is their sleep pattern? • Are they experiencing hallucinations? • Is anxiety related to spiritual needs? • Assess vital signs • Assess for urinary retention, abdominal distention-or constipation • Is anxiety related to pain, bowels dyspnea, nausea or vomiting • Assess facial expressions and body language • Assess level of alertness • Is the patient competent to make own decisions? • Assess skin color, warmth, dryness or diaphoresis • Is the patient restless or fatigued? • Is anxiety related to declining oral intake? • Assess PPS	• Review current medications including over-the-counter meds, vitamins & herbal remedies. Review compliance. • Provide reassurance • Stay calm. Your anxiety can be sensed by client & family • Decrease stimuli • Provide a safe environment • Decrease level of anxiety by teaching or explanation of situation • Explain services available i.e. Hospice, community resources, Wellness Program, relaxation therapies, complimentary therapies? Social Work Referral? • If anxiety related to spiritual needs – See **Spiritual Care Guidelines** • Is anxiety related to pain – See Pain Guidelines • If anxiety related to bowels – See Bowel Guidelines • If anxiety related to SOB – See Dyspnea Guidelines • If anxiety related to N&V – See Nausea & Vomiting Guidelines • Assist in developing coping mechanisms	• Review & adjust medications • **Medications that may be ordered based on the symptoms and severity of the anxiety:** ➢ Anxiolytic medications ➢ Sedation ➢ Anti psychotic medications
B. PSYCHOSOCIAL	• Are there precipitating factors? i.e. family dynamics, coping skills, family's anxiety? Precipitating medications? (medications such as maxeran or stemitil) • Is the family able to retain/understand information? • Do they have adequate support systems? • Is there a constant need for reassurance? • What is their attention span? Has it changed or reduced?		
C. CONTACT & INFORM PHYSICIAN OF FINDINGS		• Organize the above information & report your findings to the attending Physician.	

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WHY DOES THIS PATIENT HAVE THIS SYMPTOM NOW?

PSYCHOSOCIAL/SPIRITUAL CARE GUIDELINES

DESIRED OUTCOME: *Evidence of satisfaction with spiritual support for patient and family*

NURSING ASSESSMENT*: When assessing a palliative client for psychosocial or spiritual need, consider the following:*

	ASSESSMENT QUESTIONS	NURSING INTERVENTIONS	MEDICAL INTERVENTIONS
A. HISTORY OF PRESENTING SYMPTOM/ PHYSICAL & FUNCTIONAL ASSESSMENT	• What gives meaning and purpose to life? • Are the spiritual aspects of the patient's life important to him/her? • Are there non-verbal cues indicating spiritual or psychosocial distress? Has the patient been teary, bitter, angry or anxious? Is the patient withdrawing or isolating him/herself? • Is the patient dealing with loss or pain? • Is the patient inquiring as to what will happen to them when they die or how they will die? • Is the family aware of the physical changes that occur in the final hours of life? • Assess the PPS	• Arrange for time to listen. • Provide listening support ***at the time of expression or disclosure.*** • Ask the patient/family if their spiritual life is important to them. • Validate emotions expressed (i.e.: You sound sad today) • Mirror back what you are hearing (i.e.: You're saying that this is a difficult time for your family) • Be aware of symbolic language: a patient seeing visions, lights, hearing or seeing loved ones who have died or preparing for a journey, tactile experiences of warmth & softness – are all symbols of impending death • Explore cultural or religious rituals/practices that are required during and at the time of death and following death. This is to be documented on the home pronouncement plan • Recognize that the family fears & difficulty will be greatly dispelled by any information compassionately given them about the dying process	• Assess for clinical depression • In extreme cases the physician may offer sedation for intractable symptoms at the end of life
B. PSYCHOSOCIAL	• Is the patient expressing a sense of helplessness, hopelessness or regret? • Are there concerns about broken relationships? • Is the patient expressing fear of death? • Is the patient experiencing outburst of emotion, grappling with questions of meaning, (Why is this happening to me?) • Is the patient expressing suicidal thoughts, a wish to die very soon, or the belief that others would be better off without him? • Is the patient/family having difficulty with end of life issues? • Is the family experiencing difficulty letting go? Is the patient expressing a desire to see a faith healer or chaplain?	• Be aware that the patient needs to be heard & to feel understood • Listen to the family stories, (life review), & their experience of suffering • Ask the patient if a visit from his/her faith healer or chaplain would be welcomed • Make the appropriate referral prn. & let the patient know you have done so • Understand your own views & bias. Be careful not to place your view of spirituality onto the patients view of spirituality • Listen compassionately & non-judgmentally. • Support the family members as appropriate • Encourage open communication among family members. Encourage them to talk to one another & to the patient. This may be their last chance. • Recognize that there is nothing that you can do to remove the experience of spiritual pain. Healing comes with ***being heard***	• Interdisciplinary referral to: ➢ Pastoral Care Team, Social Work and other Support Groups ➢ Psychosocial referral such as a psychiatrist or psychologist
C. CONTACT & INFORM PHYSICIAN OF FINDINGS		• Organize the above information & report your findings to the attending Physician	

WHY DOES THIS PATIENT HAVE THIS SYMPTOM NOW?

INTIMACY/SEXUALITY GUIDELINES

DESIRED OUTCOME: *Create an environment conducive to patient verbalization of intimacy and sexuality concerns*

NURSING ASSESSMENT: *When assessing a palliative client consider the following:*

	ASSESSMENT QUESTIONS	NURSING INTERVENTIONS	SUGGESTED STATEMENTS/RESPONSES
A. HISTORY OF PRESENTING SYMPTOM/ PHYSICAL & FUNCTIONAL ASSESSMENT	• Has the disease process or its treatment (including surgery) had an impact on your sexual performance? • Is there an alteration in body image? • Have sleeping arrangements changed? • Has the disease process or its treatment interfered with you being a mother, father, wife or husband? • Has the disease process or its treatment changed the way you see yourself as a woman/man? • Has your cancer or its treatment caused any change in your sexual functioning (sex life)? • Do you expect your sexual functioning (sex life) to be changed in any way?	1) **As a Professional, be aware of the following:** • Your own sexual belief system and definition of 'normal' • Your own comfort level in discussing sexual lifestyles with clients • Your areas of discomfort and lack of knowledge in the area of sexuality • Your role in the client's life and the appropriateness and depth level of your intervention in this area with them 2) **Be aware** of the many differing sexual life styles 3) **Be aware** of the judgments that you have towards different sexual life styles **4) Be proactive** by initiating a conversation on this area within the first two visits that would normalize the expected changes in this area at this time 5) **Be consistent** in bringing it up as part of the ongoing reassessment that you would do with the client • **Be knowledgeable** about all types of different resources i.e. professionals, books, tapes: audio and video – Consider Hospice, WRH or WRCC libraries for information • Relationship Counselor or Social Work may be appropriate • Assess for clinical depression	• While I may not have all the answers, I can assist you in getting material and information that would make it easier • I want you to know that a decrease in intimacy and desire both within yourself and between you and your partner would be a very normal thing to expect at this time. • The return of your sexual activities/ desires is very individualized and dependent on: sexual lifestyle before the diagnosis, the physical changes that have occurred as a result of the disease process or the treatment, how your relationship has evolved • I want you to know that I am willing to discuss this area with you whenever it becomes stressful
B. PSYCHOSOCIAL	• Be alert to **Reduced Social Intimacy** in the patient's life due to illness & lost social contact – general social touching such as holding hands, hugs & handshakes • Assume that every patient and their partner experience changes in their sexual functioning with the onset of an illness diagnosis. • Be aware of the **partner** initiating discussions about: distance between the two; lack of touch; decrease in intimacy; changes in sleep patterns i.e. timing of sleep, places sleep occurs; general feelings of emotional and/or physical disconnection. • Listen for the **patient** expressing distress over: decreased connection with their partner; lack of physical closeness; lack of touch, hugs, caressing; changes in routines of sleep patterns.		
C. CONTACT & INFORM PHYSICIAN OF FINDINGS		• Report the above findings if client requires medical intervention to achieve their goals	

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SECTION III

NEUROLOGICAL

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DELIRIUM GUIDELINES

DESIRED OUTCOME: *Reduced or manageable delirium/confusion*
NURSING ASSESSMENT: *When assessing your patient for delirium/confusion, consider the following:*

	ASSESSMENT QUESTIONS	NURSING INTERVENTIONS	MEDICAL INTERVENTIONS
A. HISTORY OF PRESENTING SYMPTOM/ PHYSICAL & FUNCTIONAL ASSESSMENT	• Assess orientation to person, place, time and situation q____h and PRN • Assess alteration in sleep (hyper-vigilant, lethargic or mixed) • Monitor ability of client and family to verbalize needs, cope and learn – Assess behaviour and social interactions for appropriateness • Assess for pain related agitation if Diagnosis includes Dementia • Monitor: ☐ Intake/output ☐ Elimination ☐ Oxygenation ☐ Hemoglobin ☐ Blood Glucose ☐ Electrolytes ☐ Pain ☐ Vital signs q___h ▪ Monitor medications to determine if any contribute to altered consciousness (RNAO BPG pg. 130) ☐ Pharmacy Review (✓ check PRN)	▪ Acknowledge client & family feelings & fears ▪ Call client by name ▪ Reorient PRN. Mention Place, Person & Time frequently ▪ Provide quiet reassurance and quiet, non-stressful environment ▪ Provide a structured & predictable environment & routine ▪ ☐ meals ☐ continuity of caregiver ▪ toileting q_____ ▪ Provide orientation cues ☐ calendar ▪ ☐ clock ☐ other ▪ Keep questions & directions simple ▪ Assist with ADLs PRN ▪ Ensure Optimal Mobilization with the provision of assistance & specialty devices ☐ Physiotherapy Referral (✓ check PRN) ▪ Ensure Optimal Visual Stimulation through use of glasses, magnification devices and provision of adequate lighting ▪ Ensure Optimal Audio Stimulation by _____ ▪ Institute **Non-Pharmacological Sleep Guidelines** ▪ Provide daylight in day ▪ Provide back rub at HS ▪ ☐ Provide warm milk or herbal tea post HS back rub ▪ Relaxation tapes &/or music ▪ Ensure adequate nutrition & hydration: ▪ Referral to Dietitian ((✓ check PRN) ▪ Manage pain ▪ Referral for Geriatric Assessment	• Drug Screen – Specific Concerns _____ (Identify test) • CBC • Electrolytes, BUN creatinine, calcium magnesium, fasting glucose and albumin • TSH, B_{12}, RBC, Folate • Blood culture • Post-void residual • Urine C&S – and Urinalysis • Chest x-ray • Monitor O_2 saturation daily for 5 days and PRN • Oxygen Therapy – Titration to maintain O_2 saturation >90% • Pharmacy to review medications **Other Options:** • ECG • Sputum C&S • Abdominal Flat Plate • CT • V/Q Scan • Consult (check ✓): ☐ Internist ☐ Other
B. PSYCHOSOCIAL	• Assess for signs of depression / withdrawal • Identify changes in patient's behaviour from caregiver • Is there a previous psychiatric history? • Is the patient taking their medications correctly? • Is the family anxious? • Is patient experiencing near death awareness?	• Encourage clients to be involved in, and to control, as much of their care as possible. Be sure to allow them to set their own limits, and do not force clients to do things they do not want to do, as this is likely to cause disruptive behaviours. Reminiscing can also help increase self-esteem.	
C. CONTACT AND INFORM PHYSICIAN OF FINDINGS		• Organize the above information & report your findings to the attending Physician.	

Current terminology used for confusion is ***Delirium***. ***Please note*** that at last hours, attempts to eliminate the delirium or confusion may be futile

SEIZURE GUIDELINES

DESIRED OUTCOME: *Prevention and control of the seizures*
NURSING ASSESSMENT: *When assessing your patient for the risk of seizure, consider the following:*

	ASSESSMENT QUESTIONS	NURSING INTERVENTIONS	MEDICAL INTERVENTIONS
A. HISTORY OF PRESENTING SYMPTOM/ PHYSICAL & FUNCTIONAL ASSESSMENT	• Is there a history of seizures? • Common causes of seizures are metabolic (e.g.: low blood glucose), brain metastases, infectious, toxic, traumatic, idiopathic • Is the patient taking medications correctly? • Is the patient on oral hypo-glycemics such as glyburide or diamicron? • Assess length of seizure and what part of body seizure began • Assess vital signs • Assess patient for seizure activity • Assess muscle group(s) involved, onset, aura, duration, type of muscle movement, (tonic- clonic) • Assess for incontinence, loss of consciousness. • Assess for hypoxia, aspiration pneumonia, hypo or hyper glycemia • Assess and monitor post-ictal phase • Assess PPS	• Do not force anything into patient's mouth during seizure • Protect person from injury- avoid restraining extremities • Turn to side to let secretions drain from mouth – watch for signs of hypoxia • Provide reassurance • Stay calm since patient and family are able to sense your anxiety • Decrease stimuli, provide a quiet environment • Administer anticonvulsant drugs as ordered • Review current medications and compliance to administration. • Decrease level of anxiety by health teaching or explanation of situation (Provide Hospice pamphlet "Information for Families about Seizures"	• **Medications that may be ordered based on the symptoms and stage of disease:** ➢ Anticonvulsant medications ➢ Steroids – to reduce cerebral edema associated with brain tumours. • **Diagnostic Testing that may be ordered based on the symptoms and stage of disease:** ➢ CT Scan ➢ EEG ➢ Serum electrolytes ➢ Serum calcium ➢ Therapeutic drug levels ➢ Serum blood glucose • **Therapeutic Interventions such as surgery or radiotherapy to remove or reduce the tumour may be indicated**
B. PSYCHOSOCIAL	• Is the family anxious? • What is the family's ability to retain/understand information? • Do they have adequate support systems?		
C. CONTACT & INFORM PHYSICIAN OF FINDINGS		• Organize the above information & report your findings **immediately** to the attending Physician.	

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WHY DOES THIS PATIENT HAVE THIS SYMPTOM NOW?
MYOCLONUS GUIDELINES

DESIRED OUTCOME: *Recognition and management of the symptom of myoclonus*
NURSING ASSESSMENT: *When assessing your patient for myoclonus, consider the following:*

WHAT IS IT? MYO = muscle CLONUS = jerks

Myoclonus: Central nervous system excitability. Sudden, brief muscular contractions often seen at higher doses of strong opioids, anticonvulsants, tricyclic antidepressants, SSRI's, anesthetics and even antibiotics, however may be seen at lower doses of opioids. Myoclonus is an early sign of opioid toxicity and may eventually lead to full blown delirium and/or grand mal seizures.
***Myoclonus is NOT a Seizure*.** A seizure will generally last more than a few seconds and the muscles will be in a continuous contraction for a longer period of time than seen with Myoclonus.

	ASSESSMENT QUESTIONS **Why is this patient having this symptom now?**	**NURSING INTERVENTIONS**	**MEDICAL INTERVENTIONS**
A. HISTORY OF PRESENTING SYMPTOM/ PHYSICAL & FUNCTIONAL ASSESSMENT	• Is the patient on strong opioids? • When did the myoclonus start? • How long does it last? • Are the contractions mild, occasional and occurring at rest? • Any other signs of toxicity or delirium – hallucinations, change in sleep patterns? • Does patient have sudden frequent muscular contraction? • Are they repetitive in nature? • Is the pain increased with the myoclonus? • Do they interfere with ADL? • Are there multiple muscles involved? • Is the patient dehydrated? • Assess PPS • Consider – does client have liver, renal insufficiency, electrolyte imbalance? • If client on PCA pump, is bolus dose greater than continuous rate? Is PCA set up as ordered/appropriate? • Are we using principles of dose titration specific to the type of pain to reach the analgesic dose? • Does client have history of substance abuse and could they be taking more opioid than prescribed? • Is client opioid naïve? • Are we treating acute-post operative pain – different pain management approach might be considered.	• Review the current medications including over-the-counter medications, vitamins & herbal remedies • Teach patient and family the difference between myoclonus and seizure • Offer reassurance and support • Monitor for escalation of symptoms • Review medication profile • If the patient is on Demerol, discuss with the physician an alternative opioid because of the toxic metabolite found in Demerol. • If the patient has renal compromise & taking morphine call the physician to discuss rotating opioids	• **Based on presenting symptom, and the degree of myoclonus, one of the following interventions or medications may be ordered:** ➢ Consider prognosis – longer prognosis demands a more definitive change in tx ➢ Opioid rotation may help ➢ Rehydrate if appropriate SQ, PO, IV ➢ Lower opioid dose by assessing pain and adding adjuvant medications ➢ Drugs that may be ordered based on symptoms: ❖Muscle relaxant If opioid rotation not effective in controlling myoclonus, consider: ➢ Benzodiazepines ➢ Muscle relaxants

MYOCLONUS GUIDELINES (Cont'd)

DESIRED OUTCOME: *Recognition and management of the symptom of myoclonus*
NURSING ASSESSMENT: *When assessing your patient for myoclonus, consider the following:*

	ASSESSMENT QUESTIONS	NURSING INTERVENTIONS	MEDICAL INTERVENTIONS
B. PSYCHOSOCIAL	• Assess patient and family's anxiety level • Assess patient and family's understanding re myoclonus		
C. CONTACT & INFORM PHYSICIAN OF FINDINGS		• Organize the above information & report your findings to the attending Physician.	

www.eperc.mcw.edu/fastfact/ff_114.htm.57.htm

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SECTION IV

RESPIRATORY

PEARLS – SECTION XI

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DYSPNEA CARE GUIDELINES

DESIRED OUTCOME: *Relieve the sense of breathlessness*
NURSING ASSESSMENT: *When assessing your patient for SOB, consider the following:*

<table>
<tr><th></th><th>ASSESSMENT QUESTIONS</th><th>NURSING INTERVENTIONS</th><th>MEDICAL INTERVENTIONS</th></tr>
<tr><td>A.
HISTORY OF PRESENTING SYMPTOM/ PHYSICAL & FUNCTIONAL ASSESSMENT</td><td>• Is the SOB acute or chronic?
• SOB at rest or with activity?
• Does positioning affect the SOB?
• Are there pre-existing medical conditions – Ca Lung, Anemia, CHF, COPD, Asthma, Infection, Heart Disease?.
• Is the patient febrile?
• Are the respirations rapid, shallow, congested or periods of apnea?
• Are there crackles, wheezes or hyperventilation?
• Is the patient cyanotic around the mouth or nail beds, dizzy?
• Is the patient pale? Assess eyelids for signs of anemia
• Is the patient coughing, diaphoretic?
• Does the patient have Orthopnia?
• Assess amount of IV fluids, abdominal ascites, vein distention
• Assess peripheral edema:
If edema in both legs – suspect CHF
If edema in one leg - suspect DVT
• Monitor level of consciousness
• Use Levels of Dyspnea on the following page
• Assess PPS</td><td rowspan="2">• Review the current medications including any over the counter medications and herbal remedies
• Monitor Vital Signs
• Listen to both lung fields for stridor. wheezes, crackles
• Use the following page on the Levels of Dyspnea for additional Nursing Interventions

• Note: Home Oxygen Program Criteria as off January 2002 is:

1. PO2 55 mmHg or less and patients must have chronic hypoxemia on room air at rest (which correlates with <88% sat)
2. PO2 56-60 mmHg may be considered if the patient has the following conditions:
Cor Pulmonale,
Pulmonary Hypertension or
Persistent Erythrocytosis

Or

3. If exercise is limited by hypoxemia and can be documented to improve with supplemental O2
4. Nocturnal hypoxemia
5. Palliative funding for end-stage CHF, Area Specific Ca – for 90 days only (COPD not included)
6. Within the first 30 days, clients can qualify for permanent funding with pulse oximetry readings <88%</td><td rowspan="2">Please use the following page for the medical interventions for the appropriate Levels of Dyspnea

NOTE:

Physiotherapy may be accessed for positioning, relaxation and breathing techniques, exercise, energy conservation and assessment for a walking aid.</td></tr>
<tr><td>B.
PSYCHOSOCIAL</td><td>• Assess the Patient/Family's anxiety, perception and coping skills</td></tr>
<tr><td colspan="2">C. CONTACT AND INFORM PHYSICIAN OF FINDINGS</td><td colspan="2">• Organize the above information & report your findings to the attending Physician.</td></tr>
</table>

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LEVELS OF DYSPNEA	PRESENTING SYMPTOM	NURSING INTERVENTIONS	MEDICAL INTERVENTIONS
DEFINITION OF MILD DYSPNEA **LEVEL 1**	• Usually can sit and lie quietly • May be intermittent or persistent • Worsens with exertion • No or mild anxiety during SOB • Breathing not observed as labored • No cyanosis	• Reassurance • Maintain calm atmosphere • Fresh air – cooler room • Elevate head of bed • Support and elevate the arms on pillows • Conserve energy • Refer to physiotherapy and/or OT for positioning, relaxation and breathing techniques, exercise, energy conservation and adaptive equipment • Use of a fan • Complimentary therapies (Touch Therapy or Relaxation Therapy etc) • Administer oxygen as ordered • Explanation and health teaching to patient and family • If Intravenous has been necessary to promote hydration, adjust rate as ordered • Administer all medications as ordered by the physician, as quickly as possible • Pain and symptom assessment	**Based on presenting symptom, the Level of Dyspnea & the cause of the SOB, one of the following classifications of drugs may be ordered:** • Analgesics • Steroids • Diuretics • Sedatives • Inhalation therapy • Anxiolytics
DEFINITION OF MODERATE DYSPNEA **LEVEL 2**	• Usually persistent • May be new or chronic • SOB worsens with exertion, settles with rest • Pauses while talking Q30 seconds. • Breathing mildly labored		
DEFINITION OF PROGRESSIVE SEVERE DYSPNEA **LEVEL 3**	• Often acute or chronic • Worsening over few days or weeks • Anxiety persistent • Often wakens suddenly with SOB • May be cyanotic or confused, coughing • Labored breathing awake and asleep • Pause while talking Q 5 –15 seconds		
DEFINITION OF SUDDEN SEVERE DYSPNEA **LEVEL 4**	• Sudden onset (min. to few hours) • High anxiety and fear • Agitation with labored respiration • Pause while talking • Cyanosis • Respiration congested • Acute chest pain • Diaphoresis • Confusion		
DEFINITION OF EXTREME DYSPNEA **LEVEL 5**	• Agonizing air hunger • Talks only 2-3 words between gasps of air • Very frightened • Exhausted: tries to sit, leans forward, falls back, tries again • Total concentration on breathing • Respiration congested • Confusion • Cyanosis & may be cold & clammy		

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SECTION V

PAIN MANAGEMENT

PEARLS – SECTION XI

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PAIN MANAGEMENT *Guidelines*

DESIRED OUTCOME

Pt will achieve a mutually agreed upon comfort/function goal
(Accountability for pain relief: Use of comfort-function goals. Journal of PeriAnesthesia Nursing, Volume 18, Issue 1, Pages 50-52 C. Pasero)
and verbalize the side effects of opioids as well as how to prevent/relieve them

NURSING ASSESSMENT

Screen all persons at risk for pain at least once a day by asking the person or family/care provider about the presence of pain, ache, hurt, or discomfort.

- For children, consider the following:
  - Ask parents the words a child might use to describe pain or observe the child for signs/behaviours indicative of pain
- Screen for pain when undertaking other routine assessments.
  - For the frail elderly, non-verbal or non-cognizant person, screen to assess if the following markers are present:
  - states he/she has pain;
    - experiences change in condition;
    - diagnosed with chronic painful disease;
    - has history of chronic unexpressed pain;
    - taking pain-related medication for >72 hours;
    - has distress related behaviours or facial grimace;
    - indicates that pain is present through family/staff/volunteer observation.

(RNAO BPG recommendation #1)

History of Presenting Symptom

Obtain a history of underlying disease process (es), recent treatments (i.e., radiation), and overall status (PPS)

- In the context of the present illness situation ask the patient to describe:
  Location of site(s) of pain on ESAS body diagram
  - ✓ O - onset –When did it start? Sudden or gradual?
  - ✓ P - provoking or precipitating factors; (What makes it worse? / What makes it better?)
  - ✓ Q - quality of pain (what words does the person use to describe pain? - aching, throbbing);
  - ✓ R - radiation of pain (does the pain extend from the site?);
  - ✓ S - severity of pain (intensity, 0-10 scale); including scores for
    - the present moment,
    - when pain is the greatest,
    - when pain is the least,
    - level of pain at rest
    - during activity,
  - ✓ T - timing (occasional, intermittent, constant)
  - ✓ U - effect on you (U) - effect of pain on:
    - the other symptoms you are experiencing (nausea, fatigue, etc)
    - function and activities of daily living (eating/dressing/toileting/mobility/etc)

History of Presenting Symptom (cont'd)

Medication Usage

Present pain management regime of:

- ✓ Long-acting (Slow release) opioids
- ✓ Short-acting (Immediate release) opioids for breakthrough pain (BTP) including
  - o **change** in pain score achieved with BTP med
  - o how many times a breakthrough dose is needed in 24hrs
- ✓ Adjuvant medications/ Co-analgesics
- ✓ Over-the Counter medications
- ✓ Herbal remedies/ " Natural" product remedies

Past pain medications used including the medication name, dose and frequency; whether it worked or not; and why it was discontinued (? side effects)

Non-Pharmacological strategies used

Psychosocial

- ✓ How is pain interfering with your normal work? (outside home/ at home)
- ✓ How is pain interfering in your relations with other people? (family members/ friends)
- ✓ How is the pain affecting your sleep?
- ✓ How is the pain affecting you emotionally?
- ✓ Are there any financial concerns about coverage for medications?
- ✓ What does the pain mean to you? (cultural, ethnic, or spiritual meaning)
- ✓ Are there any expectations/beliefs/myths about pain management methods?

Refer to **ESAS** scores for Depression, Anxiety, and Well-Being for holistic assessment of pain situation

Physical & *FUNCTIONAL* Assessment

I-P-P-A
Inspect: sites of pain for: deformity, swelling, masses, lesions/ulcers, redness or other discolouration
Palpate: sites of pain for warmth or coolness, tenderness, masses, assess effect of ROM on pain if indicated
Percuss: If indicated - percuss Abd for tympani, posterior chest for effusions
Auscultation: *Note if auscultating Abd- do this prior to palpation.

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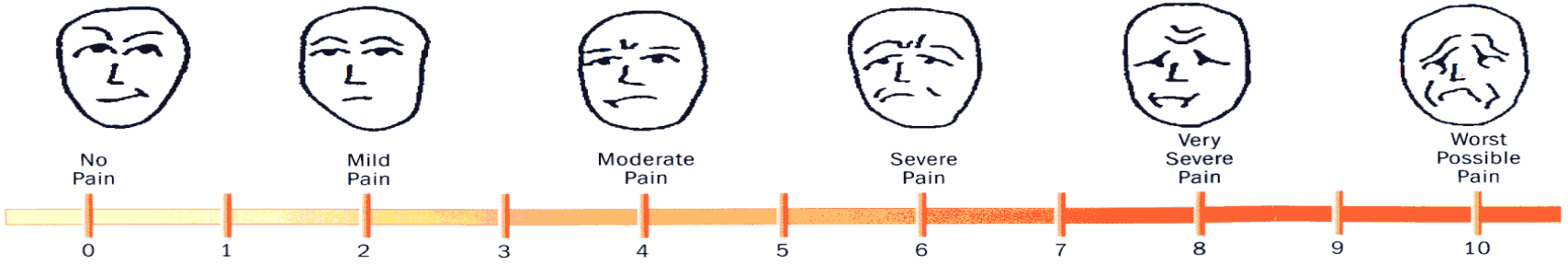
how severe is the pain?



Adapted from: 1. Facial Grimace Scale. From Brignell A. *Guidelines for Developing a Pain Management Program: A Resource Guide for Long-Term Care Facilities*, 4th ed. Sarnia, Ontario: St. Joseph's Health Centre. May 2004. **2.** Wong DL, Baker CM. Pain in children: comparison of assessment scales. *Pediatr Nurs* 1988;14(1):9–17 (Fig.2).

OPIOID SIDE EFFECTS

- **Nausea/Vomiting**
- **Constipation**
- **Urinary Retention**
- **Drowsiness/Sedation**
- **Pruritis**
- **Visual Hallucinations**
- **Myoclonus**
- **Delirium**

Opioid dosing above:

80 mg/hr of hydromorphone
400 mg/hr of morphine

may lower the *seizure threshold*

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Classification of Pain by Inferred Pathology

Two types of Pain

Nociceptive Pain		**Neuropathic Pain**	
Normal processing of stimuli that damages normal tissues or has the potential to do so if prolonged; **usually responsive to nonopioids and/ or opioids.**		Abnormal processing of sensory input by the peripheral or central nervous system; **treatment usually includes adjuvant analgesics**.	
a. Somatic Pain	**b. Visceral Pain**	**a. Centrally Generated Pain**	**b. Peripherally Generated Pain**
Arises from bone, joint, muscle, skin or connective tissue. It is usually aching or **throbbing** in quality and is **well localized**.	Arises from visceral organs, such as the GI tract and pancreas. This may be further subdivided into 1. **Tumor** involvement of the **organ capsule** that causes **aching** and **fairly well-localized pain.** 2. Obstruction of **hollow viscus**, which causes intermittent **cramping** and **poorly localized pain**.	**1. Deafferentation pain.** Injury to either the peripheral or central nervous system. Examples: Phantom pain may reflect injury to the peripheral nervous system; burning pain below the level of a spinal cord lesion reflects injury to the central nervous system. **2. Sympathetically maintained pain** Associated with dysregulation of the autonomic nervous system. Examples: May include some of the pain associated with reflex sympathetic dystrophy/causalgia (complex regional pain syndrome)	**1. Painful polyneuropathies.** Pain is felt along the distribution of many peripheral nerves. Examples: Diabetic neuropathy, alcohol-nutritional neuropathy, and those associated with Guillain-Barre' syndrome. **2. Painful neuropathies**. Usually associated with a known peripheral nerve injury, and pain is felt at least partly along the distribution of the damaged nerve. Examples: nerve root compression, nerve entrapment, trigeminal neuralgia.

From McCaffery M, Pasero C: Pain: Clinical manual, p 19. Copyright 1999, Mosby, Inc.

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NURSING INTERVENTIONS

******Establish **COMFORT/ FUNCTION GOAL** ******

- Identify activities that are crucial to patients' recovery or their QOL
- Discuss the rationale for appropriate functional activities such as deep breathing & coughing to prevent pneumonia or ambulating to BR to maintain mobility for as long as possible
- Guide patients to select a pain rating that will allow them to accomplish their functional activities easily
- Identify pain intensity goals for when the patient is at rest and with various activity(s)

Educate patient and family regarding:

- The importance of promptly reporting unrelieved pain, changes in their pain, new sources or types of pain and side effects from analgesics.
- Potential side effects of opioids and how to prevent or relieve them
- Potential side effects of adjuvant meds (NSAIDs, Steroids, etc)
- Common myths regarding opioids , such as fear of addiction, saving strong meds till "the end," etc
- Clarify the differences between addiction, tolerance, and physical dependence to alleviate misbeliefs that can prevent optimal use of pharmacological methods for pain management.
  - Addiction (psychological dependence) is not *physical dependence* or *tolerance* and is rare with persons taking opioids for chronic pain.
  - Persons using opioids on a chronic basis for pain control can exhibit signs of *tolerance* requiring upward adjustments of dosage. However, tolerance is usually not a problem and people can be on the same dose for years.
- Non-pharmacological strategies:
  - Possible (discuss with Case Manager) referral to OT Therapy for: positioning/splinting/equipment needs/environmental/home adaptations.
  - Possible (discuss with Case Manager) referral to Physiotherapy for: pain management modality such as TENs/massage/heat – on a consultative basis

Provide the patient and family, care providers with a written copy of the treatment plan to promote collaboration and continuity of care

REASSESS pain on a regular basis (WHY – IS THIS PERSON HAVING THIS SYMPTON – NOW?)

- Intensity, Quality, Location(s)
- Intensity of pain at its worst in the last 24 hrs
- Effectiveness of pain management regime (pharmacological and non-pharmacological interventions)
- Keep in mind radiation may initially increase pain then lead to a reduction in pain, requiring a reduction in Opioid doses
- Assess for side-effects, especially sedation level, nausea, constipation, myoclonus
- Assess for meds that potentiate side effects (sedatives, tranquilizers for sedation / Antihistamines and TCA's for confusion)
- Reducing steroid doses may contribute to an increase in pain

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Document pain on monitoring record that tracks efficacy of interventions by tracking pain intensity (ESAS)

- Teach patient and/or family to document pain on monitoring record as appropriate

Advocate for changes in treatment plan if pain is not being relieved. Support your recommendations with appropriate evidence regarding:

- Intensity of pain and change in intensity score in the last 24 hours
- Change in intensity and quality of pain following analgesic (Nocioceptive vs. Neuropathic pain?)
- Length of time the analgesic is effective
- Amount of regular and breakthrough medication used in the last 24 hours
- Person's goals for pain relief
- Effect of unrelieved pain on the person
- Absence or presence of side effects or toxicity
- Equianalgesic dosing chart
- Caution in selecting certain analgesics in specific patient populations such as morphine in renal failure or NSAIDS in peptic ulcer disease

(RNAO BPG recommendation #15)

Non-Pharmacological Interventions

Positioning	**Splinting**	**Physiotherapy**
Occupational Therapy	**TENS**	**Acupuncture**
Acupressure	**Relaxation massage**	**Application of cold**
Application of heat	**Progressive relaxation**	**Guided imagery**
Music therapy	**Humour therapy**	**Art Therapy**
Therapeutic Touch	**Prayer**	**Radiance therapy**
Reflexology	**Meditation**	

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MEDICAL INTERVENTIONS

Principles of Opioid Dosing and Titration

1. Always start with **short-acting** analgesics and a bowel regime if on opioids
2. Consider the use of **adjuvant** medications with the opioids and **non-pharmacological interventions for pain management.**
3. Give medications by the **oral route** whenever possible.
4. Dose pain medication on an **around-the-clock routine basis** and continue PRN doses for breakthrough pain
5. There **is no upper limit to opioid dosages.** The dose of opioid should be titrated up until ether: the pain is controlled or an intolerable side effect is experienced
6. The analgesic effectiveness should be **reassessed routinely**. Adjust the dose using the **OPIOID TITRATION TECHNIQUE** as frequently as required to achieve pain control.
7. Assess for **side effects** daily and treat (nausea, constipation, urinary retention, pruritis)
8. Assess for **potential toxicities** daily (confusion, delirium, myoclonus, and sedation)

OPIOID TITRATION TECHNIQUE

1. Calculate the total amount of **each opioid** drug given by **each route** in the previous 24 hours, including regular and prn doses (short-acting, long-acting, patches and infusions)
2. Using **DRUG** conversion ratio (i.e. Morphine : Dilaudid is 5:1), convert all drugs to **one type of drug** for the purpose of calculations. Choose the drug you plan to continue to use for regular dosing.
3. Using **ROUTE** conversion ratios (i.e. Oral:Parenteral is 2:1* See Equianalgesic chart for specific route ratios), convert each of the **one type of drug** amounts from the step above to the proper amount for **the route** by which **it was given**.
4. Add the amounts from the conversion to **one type of drug** used from **each route** to calculate the total amount of opioid used in the last 24 hrs.
5. To choose the **NEW regular dose**, divide the total amount of drug needed in the last 24 hours by the appropriate dosing interval for that specific drug. For example if appropriate dosing interval is q 12hr then divide the total by 2, if q4hr then divide the total amount by 6, if q 1hr then divide the total amount by 24.
6. For breakthrough dose calculation:
   - If regular dosing is q 1hr(CSCI) give 50-100% of regular dose q 30-60min
   - If regular dosing is q 4hrs give 30-50% of the regular dose
   - If regular dosing is q 12hr give 20%og regular dose
   - If regular dosing is q 24hs give 10% of the regular dose
7. The breakthrough dose is adjusted based on individual response and on route of administration. (An order may read- 4mg Dilaudid po OR 2mg Dilaudid **sq**
8. Repeat the process and titrate up until **comfort/function pain goal** is achieved or **intolerable side effect occurs.**

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Equianalgesic Conversion Chart

Oral or Rectal route	SC or IV (is half the oral dose)
Morphine 10 mg	**5 mg Morphine**
Codeine 100 mg	*not recommended*
(Dilaudid) **HYDROmorphOne 2 mg**	**1 mg HYDROmorphOne** (Dilaudid)
1 Oxycocet (Percocet) has Acetaminophen with ***Oxycodone*** **5 mg**	*not available*

Suggested **Breakthrough pain dosing** while on Duragesic patch **Morphine** q2h prn ***oral*** mg dose	**Equivalent dose of Morphine by the oral route over the last 24 hrs** (average)	*Duragesic Patch* (Fentanyl) µg/hr	**Equivalent dose of HYDROmorphOne by the oral route over the last 24 hrs** (average)	***Suggested*** **Breakthrough pain dosing** while on Duragesic patch **HYDROmorphOne** q2h prn ***oral*** mg dose
10	**45 - 135** (90)	**25**	(22) **11 - 34**	2
20	**135 - 225** (180)	**50**	(45) **34 - 56**	4
30	**225 - 315** (270)	**75**	(67.5) **56 - 79**	6
40	**315 - 404** (360)	**100**	(90) **79 - 100**	8
Remember: Subcu or IV is HALF the oral dose	**Use extreme caution if considering initiating a Duragesic patch in *opioid naive* patients**			**Remember: Subcu or IV is HALF the oral dose**

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½ of Fentanyl Patch

- We might do this when initiating an opiate naïve patient onto the patch, or if the patient experiences side/effects to changes which are deemed too significant.
- **DO NOT CUT THE PATCH.** The half patch is achieved by using tegaderm against the skin to block absorption from half the surface area of the patch.

"Footprinting" or "tiling" is another patch maneuver

- It is an attempt to "smooth" the delivery and avoid peaks and valleys. It is NOT always necessary but occasionally very helpful.
- A patient on 150 micrograms/hr patch, q72 hr, experiences "too much med" on day 1, perfect day 2, and a "wearing off" on day 3. Changing the patch to 150 microgram/hr q48 hr caused heightened side-effects. The patches were changed to 3 x 50 microgram/hr patches, q 72 hr, but one patch was changed each day on a rotating basis. This is called "footprinting" or "tiling". Each 24 hr, there was a new patch delivering medication giving a "smoother" effect.

THE REASON WHY WE DON'T USE DEMEROL (meperidine)

Meperidine has been widely used for over half a century for the management of acute pain.[5] There are relatively few applications for which meperidine would currently be considered a first line opioid, yet it continues to be ordered and administered in cases where scientific evidence for better alternatives exists. The potentially severe adverse reactions that can occur with the use of meperidine may be under recognized. The drug is metabolized via two hepatic pathways; the most clinically significant of these produces the active metabolite normeperidine. Normeperidine has half the analgesic potency of its parent compound but has 2-3 times the neurotoxic potential. Normeperidine is a potent central nervous system stimulant and signs of toxicity can include irritability, tremors, muscle twitching, disorientation, agitation, hallucinations, hypertension and grand mal seizures. The half-life of normeperidine ranges from 14-48 hours, and is even longer in patients with renal dysfunction. Repeated administration of meperidine can lead to an accumulation of normeperidine and predisposes patients to neurotoxicity.[3,8]

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OM ISM ISMP Canada Safety Bulletin, Volume 4, Issue 8, August 2004.

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Opioid Rotation:

If the patient has been receiving increasing or large doses of a certain opioid, but it has not been effective, the reason may be that all of the receptors for that opioid are flooded with that drug and there is "free drug" circulating that does not have any receptor site to attach to. In this situation the equianalgesic dose of a new drug may be too much because the equianalgesic calculation has included the amount of "free drug". If you think that the patient may be experiencing the situation described above then:

When switching between different opioids,

estimate the equianalgesic dose of the *new* drug,

***BUT only prescribe 2/3* of the *new* drug's calculated dose**

Other Medical Interventions

- Radiation Therapy
- Invasive Radiological procedures such as chemoembolization, vertebroplasty
- Palliative Chemotherapy
- Surgery
- Epidural/Intrathecal
- Nerve Blocks

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ADJUVANT PAIN MEDICATIONS

Indication (Symptom)	Medication Type	Generic &Common Trade Name®	ODB	Starting Dose and Range	Side-Effects and Notes
Mixed Pain: often tumour growth in a small space Used to ↓ swelling: e.g. lymphatic obstruction, cerebral edema, spinal cord compression, liver capsule pain	Steroids	dexamethasone (Decadron®)	yes	2-8 mg po/sc od - bid	-no need to give more often than od or bid. -may be given sc -many s/e if used over weeks -consider adding PPI (Pariet®) for GI protection -no need to taper if used for <2 weeks -small % develop psychosis/delirium -watch sodium retention (peripheral edema)
Bowel Obstruction					-short trial warranted, may help reverse obstruction by ↓ edema in gut wall
	Anti-spasmodics	hyoscine butylbromide Buscopan®	no	10-20 mg po/sc qid – q4h	-anti-cholinergic s/e
Muscle Spasms	Skeletal Muscle Relaxants	baclofen Lioresal®	yes	5 mg tid – 20 mg qid po	-↓ dose in renal dysfunction
Bone Pain	NSAID's	many	yes		-potential complications – renal compromise, GI bleeding (?add PPI) sodium retention (potential to aggravate CHF)
	Biphos-phonates	clodronate (Bonefos®) pamidronate (Aredia®) zoledronic acid (Zometa®)	LU 358 breast ca LU 359 MM some-CCO some-CCO	800 mg bid po or sc infusion 90 mg IV monthly 4 mg IV monthly	-GI upset -↓osteoclastic activity. -may help pain over 2-3 months, not immediately. May slow development of bony complications/pain. -reduce dose for renal compromise.
Neuropathic Pain	Tricyclic Antidepressants	desipramine (Norpramin®)	yes	10-25 mg qhs po titrated slowly to 150 mg unless limited by side/effects	-May take 2 weeks to have best effect. -Anticholinergic side-effects possible – dry mouth, urinary retention
		amitriptyline (Elavil®)	yes		
	Anticonvulsants	carbamazepine (Tegretal®)	yes	100 mg qhs po titrated to 200 mg qid or q4h. max 1200mg/day	-to avoid s/e with peaks, suggest lower doses more frequently. -the controlled release may give better symptom control w/o side-effects (nausea, dizziness)
		carbamazepine-CR (Tegretal-CR®)	LU 67	same dose as titrated to with the short-acting, given bid po	
		gabapentin (Neurontin®)	ICR	100 mg qhs po titrated to 1200 mg tid. commonly suggested titration: 300 mg day 1 300 mg bid day 2 300 mg tid day 3	-watch dosing in renal compromise
		topiramate (Topamax®)	ICR	25 mg bid to max 400 mg/day	-oligohydrosis (rare)
	Opioids	Methadone (Metadol®)	no	various	-requires special exemption to Rx methadone for pain control

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SECTION VI

ONCOLOGICAL EMERGENCIES

PEARLS – SECTION X

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WHY DOES THIS PATIENT HAVE THIS SYMPTOM NOW?

FEBRILE NEUTROPENIA GUIDELINES

DESIRED OUTCOME: *Prompt recognition and reporting of symptoms related to a low WBC*
NURSING ASSESSMENT: *When assessing your patient for febrile neutropenia, consider the following:*
NOTE: *This usually occurs within 7 to 14 days post treatment*

A. **What is it?** A fever with a low white blood count
B. **Who is at risk?** A patient with bone marrow infiltration by malignant cells, recent chemo or radio, usually within the last 7-14 days.

	ASSESSMENT QUESTIONS	NURSING INTERVENTIONS	MEDICAL INTERVENTIONS
A. HISTORY OF PRESENTING SYMPTOM/ PHYSICAL & FUNCTIONAL ASSESSMENT	• Is the patient on active chemo/radio? • Date of last treatment? • Does the patient have a recent history of antibiotic therapy? • Are there usual signs of infection? - Pus formation, redness and swelling, purulent discharge (**may not be present;)** • Is the patient complaining of "malaise" "shakes" • Is the patient on steroids, NSAIDS or acetaminophen? (**All may mask a fever)** • Is there a vascular access device? • Is vascular access device red, swollen, painful, streaking any drainage? • Is there a productive cough? • Is the patient complaining of nausea, vomiting, dysphagia, abdominal pain, cramping, diarrhea, and rectal pain or itching? • Is there pain or burning on urination? Increased frequency? • Are there any open draining lesions? • What is the length and pattern of fever? • Is the patient complaining of shaking chills? • Are there lesions in the mouth? Inflammation, white patches? • Is there an altered level of consciousness? • Assess PPS •	• Perform Nursing systems assessment, i.e., lung sounds, bowel sounds • Review the current medications including over-the-counter medications, vitamins & herbal remedies • Monitor vitals signs (Take temperature prior to administering Tylenol) • Report fever greater than 100° F Or 38° C • Teach patients and family signs and symptoms to report to nurse • Precautions if low WBC- no suppositories, rectal exams, or enemas. **Enemas to be given only after discussion with physician & specific orders.** • Institute antibiotic therapy (as ordered) **ASAP** • Patient not on active treatment - discuss treatment options with physician based on patient/family's wishes. • Teach patient/family protective measurers they can employ, i.e., stay out of crowds, avoid exposure to people with colds/contagious diseases • Teach good hand washing techniques	• **Based on presenting symptom, & the stage of the disease, a septic workup may be ordered.** Example: ➢ CBC + differential ➢ Cultures (sputum, blood, urine, wound, stool) CVAD ➢ Antibiotic Therapy ➢ Tylenol prn for fever ➢ Chest X-ray ➢ consider Neupogen/Neuasta post next round of chemo pending drug coverage
B. PSYCHOSOCIAL	• Are the patient and family anxious re fever? • Does the patient understand the importance of reporting a fever associated with a low WBC?		
C. CONTACT & INFORM PHYSICIAN OF FINDINGS		• Organize the above information & report your findings **immediately** to the attending Physician.	

Caution: Septic *Afebrile* **Neutropenia may also occur where the patient may develop sepsis without developing a fever. Symptoms may be non-specific**

WHY DOES THIS PATIENT HAVE THIS SYMPTOM NOW?

HYPERCALCEMIA GUIDELINES

DESIRED OUTCOME: Prompt recognition and management of an elevated serum calcium level
NURSING ASSESSMENT: *When assessing your patient for hypercalcemia, consider the following:*

Question: Who is at risk?
Answer: Highest incidence occurs in breast, prostate, lung, head & neck, myeloma, renal cell cancer & cancers with known bone metastases. Hypercalcemia may also occur with other malignancies.

HISTORY OF PRESENTING SYMPTOMS

Classification		System	System Associated Symptom
Mild: Fatigue, anorexia, nausea		**Neuromuscular**	Fatigue, lethargy, confusion, obtundation, coma, profound muscle weakness
Moderate: Vomiting, thirst, mild confusion, muscle weakness		**Gastrointestinal**	Anorexia, nausea, vomiting, abdominal pain, constipation
Severe: Dehydration, ileus, psychosis, drowsiness		**Cardiac**	Arrhythmias, bradycardia, tachycardia, ECG changes
Life Threatening: Bradycardia, heart block, coma, systolic arrest & death.		**Renal**	Polyuria leading to dehydration polydypsia, renal failure

	ASSESSMENT QUESTIONS	NURSING INTERVENTIONS	MEDICAL INTERVENTIONS
A. HISTORY OF PRESENTING SYMPTOM/ PHYSICAL & FUNCTIONAL ASSESSMENT	• Assess the patient ‘s symptoms using the above classifications of Hypercalcemia • Assess fluid balance/hydration status • Is the patient excessively thirsty? • Does the patient have an extremely large urinary output? • Is the patient hypotensive? • does patient have irregular heart rate? • last time bowels moved? • flank pain? • Nausea and vomiting? • irritability/depression?	• Oral hydration includes fluids high in salt i.e. Oxo™ cube soups • Review current medications including over-the-counter meds, vitamin & herbal remedies • Monitor Intake and Output and Vital Signs • Monitor lab results • Review medication profile • Verbal reassurance and support • Health teach re condition • Immobilization is a contributing factor–OT/PT referral if appropriate	• **Based on presenting symptom, the level of hypercalcemia and the stage of disease, one of the following interventions or medications may be ordered:** ➢ Serum calcium with a serum albumin or ionized calcium level. ➢ Intravenous hydration with Normal Saline ➢ Steroids ➢ Hydration ➢ Bisphosphonates ➢ EKG ➢ Hemodialysis
B. PSYCHOSOCIAL	• Assess patient and family’s anxiety • Assess patients and family’s perception and coping skills		
C. CONTACT & INFORM PHYSICIAN OF FINDINGS.		• Organize the above information & report your findings **immediately** to the attending Physician.	

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HY DOES THIS PATIENT HAVE THIS SYMPTOM NOW?

SPINAL CORD COMPRESSION, (SCC), GUIDELINES

DESIRED OUTCOME: *Prompt assessment and reporting of the symptoms **to prevent permanent** spinal cord nerve damage*
NURSING ASSESSMENT: *When assessing your patient for Spinal Cord Compression, consider the following:*

Question: *What is it?*
Answer: Usually develops when a tumour in the vertebral body invades the epidural space and presses on the spinal cord.
Question: *Who is at risk?*
Answer: Highest incidence occurs in breast, prostate, lung, myeloma, kidney, thyroid and other cancers with known bone metastases. Spinal Cord Compression may also occur with other malignancies.

	ASSESSMENT QUESTIONS	NURSING INTERVENTIONS	MEDICAL INTERVENTIONS
A. HISTORY OF PRESENTING SYMPTOM/ FUNCTIONAL ASSESSMENT	• Does the patient have bone metastasis? • Does the patient have a high risk cancer for Spinal Cord Compression? • Is the patient complaining of back pain? • Back pain is nearly always the first symptom • Does the patient have a pre-existing back complaint of pain or injury? • Is the patient experiencing sensory change? i.e. numbness, tingling, cold sensation, and/or tightness? • Is there pain over vertebral bodies? • Does the patient complain of band-like pain (i.e., like a tightening belt)? • Is there a decrease in ADLs? • Are there limitations in moving their limbs? • Any unexplained weakness? • Has the patient voided? • Is the patient constipated? • Is the patient impotent, incontinent? • Is there escalating pain – Radicular component ⇑ with sneezing, coughing or when in a supine position? • Are there changes in gait? • Assess PPS	• Do a thorough pain assessment as to location, duration, severity and radiation of pain. • Palpate vertebral bodies • **SEE PAIN ASSESSMENT GUIDELINES** • **Health teach patient and family importance of reporting immediately early signs and symptoms** • Health teach re condition and potential treatment options • Offer emotional support • Ask the patient to move their legs/arms. • Check for asymmetry & spasticity of extremities • Monitor when they moved their bowels last • Monitor when they voided last • Check for urinary retention or change or lost urinary control	• **Based on presenting symptom, and the Stage of Disease, one of the following interventions or medications may be ordered:** ➢ X-ray Examination ➢ Bone Scan ➢ MRI (Cervical, thoracic lesions) ➢ CT (Lumbar lesions) ➢ Neurosurgery Consult/Surgery ➢ Radiotherapy Consult ➢ Steroids ➢ Pain Management
B. PSYCHOSOCIAL	• Is the patient/ family anxious re symptoms and change in condition? • Is the patient/family aware pf the implications of failure to diagnose & treat a SCC which can lead to permanent paralysis? • What are the patient/family treatment expectations?		
C. CONTACT & INFORM PHYSICIAN OF FINDINGS		• Organize the above information & report your findings **immediately** to the attending Physician.	

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WHY DOES THIS PATIENT HAVE THIS SYMPTOM NOW?

SUPERIOR VENA CAVA, (SVC), OBSTRUCTION GUIDELINES

DESIRED OUTCOME: *Prompt recognition and reporting of the symptoms associated with a SVC Obstruction*
NURSING ASSESSMENT: *When assessing your patient for a SVC, consider the following:*

Question: *What is it?*
Answer: Usually develops when blood flow through the superior vena cava is obstructed.
This occurs when:
Tumour expansion compresses the SVC externally
Formation of malignancy-related thrombosis – may form causing further obstruction of blood flow
Under pressure SVC begins to collapse, causing pattern of decreased venous return to heart
Question: *Who is at risk?*
Answer: Wherever there is a growth near the SVC - Highest incidence will occur in cancer of the lung, Squamous Cell Lung Cancer, (SCLC), Non Hodgkin's Lymphoma

INITIAL PRESENTING SYMPTOMS	INTERMEDIATE PRESENTING SYMPTOMS	LATE PRESENTING SYMPTOMS
• Slight facial swelling • Slight periorbital conjunctival edema • Symptoms will dissipate within a few hours after rising in the morning	• Flushing, increased facial swelling, beefy red color of face (erythema of face) • Progressive neck and upper trunk swelling/edema • Full feeling in arms, swelling of fingers and hands • Watery eyes, congested conjunctiva • Nasal stuffiness • Light headedness • Changes in voice • Trouble swallowing	**Central Venous System** Tachycardia, decreased BP, periorbital cyanosis Extremely dilated, prominent chest veins **Respiratory** Cough, dyspnea, hoarseness, tachycardia **Central Nervous System** Headache, confusion, anxiety, vision changes **Gastrointestinal** Dysphagia

	ASSESSMENT QUESTIONS	NURSING INTERVENTIONS	MEDICAL INTERVENTIONS
B. PSYCHOSOCIAL	• Assess patient and family's anxiety • Assess patient and family's perception and coping skills	• Decrease anxiety, maintain a calm, reassuring manner • Elevate head of bed to maximize breathing • Teach re condition • Monitor respiratory status • Monitor Intake & Output • Administer medications and oxygen as ordered	**Based on presenting symptom, and the Stage of Disease, one of the following interventions or medications may be ordered:** • Diagnostic Imaging to confirm diagnosis – CT/MRI/chest x-ray • Radiotherapy / Chemotherapy • Steroids • Anticoagulants if thrombosis • Diuretics • Pain Management, Sedation • Oxygen, Opioids • SVC stinting
C. PHYSICAL & FUNCTIONAL ASSESSMENT	• Please use the above symptoms in assessing your patient. • Assess PPS		
D. CONTACT & INFORM PHYSICIAN OF FINDINGS		• Organize the above information & report your findings **immediately** to the attending Physician.	

WHY DOES THIS PATIENT HAVE THIS SYMPTOM NOW?

DEEP VEIN THROMBOSIS (DVT), GUIDELINES

DESIRED OUTCOME: *Prompt Recognition & Reporting of DVT*
NURSING ASSESSMENT: *When assessing your patient for a DVT, consider the following:*

<table>
<tr><th></th><th>ASSESSMENT QUESTIONS</th><th>NURSING INTERVENTIONS</th><th>MEDICAL INTERVENTIONS</th></tr>
<tr><td>A.
HISTORY OF PRESENTING SYMPTOM/ PHYSICAL & FUNCTIONAL ASSESSMENT</td><td>• Is this patient at risk for DVT
  • Is the patient immobile?
  • Is the patient post-op?
  • Has the patient had a recent fracture or trauma to the extremity?
  • Is there a History of DVT or pulmonary embolism?
  • Is this a cancer patient?
  • Is there a central venous catheter?
• Is one arm/leg more swollen than the other?
• Does initial measurement of both extremities indicate edema? (Note: edema may persist for weeks/months post-DVT diagnosis & not always indicates Tx failure)
• Is there pain, tenderness or swelling?
• Is there redness or increased warmth?
• Is there cyanosis of the extremity?
• Is there a positive Homan’s Sign? (Note: a negative Homan’s Sign can occur in the presence of a DVT)
• Assess PPS</td><td rowspan="2">• Health teach re: DVT
• Review the current medications including over-the-counter medications, vitamins & herbal remedies
• Offer reassurance and support
• Elevate affected limb
• Avoid excessive movement of affected limb
• Avoid massaging
• Avoid application of heat or cold
• Monitor vital signs for tachycardia and dyspnea
• If appropriate check lab results
• Administer analgesics and other medications as ordered
• May require hospitalization for anti coagulant therapy
• Apply TED stockings as ordered
• Health Teaching re: anti-coagulant therapy</td><td rowspan="2">Based on presenting symptom, and the stage of disease, one of the following interventions or medications may be ordered:

• Doppler Ultrasound may be ordered
• Shuntogram may be ordered if caused from a central venous catheter
• Anticoagulant medications may be ordered - (Note: If patient Signs & Symptoms progress, consider the use of low molecular Heparin – by weight)
• Diuretics
• Anti – inflammatory medications
• TED Stockings</td></tr>
<tr><td>B.
PSYCHOSOCIAL</td><td>• Do the patient and family understand what is happening?</td></tr>
<tr><td colspan="2">C. CONTACT AND INFORM PHYSICIAN OF FINDINGS</td><td colspan="2">• Organize the above information & report your findings immediately to the attending Physician.</td></tr>
</table>

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SECTION VII

SKIN

PEARLS – SECTION X

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WOUND AND SKIN ASSESSMENT & CARE GUIDELINES

DESIRED OUTCOME: *Comfort, Prevention of Complications, & Unnecessary Skin Breakdown from Pressure Ulcer Development or Trauma*
NURSING ASSESSMENT: *When assessing a palliative client with a wound, or for risks of skin breakdown consider the following:*

	ASSESSMENT QUESTIONS	NURSING INTERVENTIONS **Some wound care products are only available if ordered by an Enterostomal Therapist**
A. HISTORY OF PRESENTING SYMPTOM/ PHYSICAL & FUNCTIONAL ASSESSMENT	• What caused the wound? • Is wound healing possible? • What is the medical Dx, stage of disease & prognosis? • What treatments have been used on the wound? What treatment was successful? What was not? • Is there peri-wound skin breakdown or irritation? • Is the dressing change painful to the client? • Has there been a recent increase in analgesic use? • Has client adherence with treatment been achieved? • What does the client want? • What disciplines have been involved? ET? OT? PT? Dietitian? • Is the client febrile? Is the wound infected? Has a C&S been taken? Is an abnormal C&S being addressed? • Is client's nutritional intake adequate to promote healing/prevent deterioration? • Is the wound tissue friable? • Is client inactive? Immobile? Have pressure ulcers? At risk for ulcers? • Is there a ⇑ photosensitivity ⇓ tactile sensation, etc. from chemotherapy? • Is there a ⇑ fall risk? • Is there a history of skin tears? • Assess PPS	• Distinguish between healing & non-healing wounds in order to determine most appropriate treatment. Rolstad and Nix, 2001). • Use medical diagnosis, client response to treatment disease stage, & client preference, to develop treatment plan. • Review all medications & request adjustments prn. Consider use of topical analgesics. Medicate for breakthrough pain 1hr. before dressing changes prn. • Consider the use of Wound Contact Materials to ⇓ trauma to the wound bed. • Protect peri-wound skin. Gently remove dressings. Consider the use of netting, Montgomery Ties or hydrocolloid wound frames, if tape causes skin trauma. • Effective management of odour is dependent on the reduction of bacterial levels within the wound, and the treatment of infection. Consider use of charcoal silver dressings such as Actisorb ™, and dilute vinegar compresses to reduce odour. Silver dressings or topical antibiotics may also be beneficial in helping to control odour. Continually evaluate their effectiveness. • If possible, remove the cause that contributed to development of the wound, i.e., pressure ulcer (relieve/download pressure/friction/shear) • Review the plan of care with the client/family. Encourage input. Respect informed decisions made to abandon aggressive care. • Be alert to & address infection early. Check test results to see if C&S indicate resistance to antibiotic therapy in use. • Tissue that breaks up easily may require wound contact materials. • Refer to ET or OT for support surface assessment. Pressure reduction surfaces may be indicated. • Use heating pads or ice packs with caution. Teach the importance of avoiding sun or using sunscreen. • Institute pressure relief/reduction techniques. • Refer to OT, PT • Use assistive devices pm.
B. PSYCHOSOCIAL	• What does the client say is the most bothersome part of having this wound? Odour? Drainage? Appearance? Pain? • Does the presence of the wound cause anxiety? • How does the family react to the wound? • Does the client have reliable support systems? • Do the client & families understand; wound cause? Treatment plan? Treatment outcomes? • Are the client's wishes & preferences related to the treatment being met?	• Listen. • Manage odour, drainage, pain, & appearance. • Provide emotional support. • If bleeding is a problem consider wound contact layers to reduce e trauma from dressings. Topical thrombins, silver nitrate and calcium alginates can all be beneficial in reducing bleeding. Examples of calcium alginates are Kaltostat ™ or Calciare ™ • Encourage client & family input into treatment plan. Continually assess understanding, ability & commitment to assist with care. • Encourage questions/verbalization of feelings. Ask if the wound alters body image or quality of life. Respect client & family culture, wishes & informed decisions.
C. CONTACT & INFORM PHYSICIAN OF FINDINGS		• Organize the above information & report your findings to the attending Physician.

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SECTION VIII

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SECTION IX

Appendix

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PPS	60	50	40		30	20	10	0
Symptom Management	-Use Care Management Tools/Report PPS each report -Review of symptoms - use ESAS and algorithm -When symptoms not controlled consider palliative physician referral via family physician	-Increase units of service as needed – call Case Manager (ongoing as needed) -Use Care Management Tools, consider SRK as appropriate	-Communicate with Case Manager of changing condition ongoing - Monitor mouth for thrush ongoing	**Prepare in advance of weekend/holiday**	-Assess for non-verbal signs of pain -Control of secretions -Institute bed care principles – turning positioning – educate family			-Comfort Family -Institute Home Pronouncement Plan -Post death care as appropriate
Medications	*-Alternate delivery modalities – prepare for subq and/or pump, order appropriate supplies*	-Educate re: anticipated side effects of medications (ongoing)	*-Monitor swallowing -Medications from Oral to Subq?* -Consider some meds to be discontinued, communicate with physician					-Family to return unused meds to Pharmacy
Psychosocial/ Spiritual	- Evaluate effectiveness of support and coping strategies - Consider Hospice referral (Nurse/Social Worker/Volunteer) - Refer to Care Management Tools	-Discussion re: psycho/social/spiritual needs (as appropriate)						-Comfort family as needed -Remind family of resources i.e. clergy, hospice
Informal Caregiver Needs	-Determine who main family caregiver will be -Evaluate effectiveness of support and coping strategies -Education re: client transfer, assisting with ADL's etc	-Reinforce need for main family caregiver who will be spokesperson and communicator -Consider hospice referral for informal caregiver support -Contact Case Manager if more support is needed			- Educate family re: What to expect re: impending death -Consider if other family supports are needed to maintain patient at home if this is the goal - Contact the Case Manager			-Comfort family -Consider planning transition visit – advise Case Manager - Advise re bereavement resources i.e. CMHA as appropriate
Equipment Needs	-Family assessment and education re: all interventions i.e. HPP, SRK -Consider mobility, bath and safety issues/hospital bed needs – contact Case Manager (OT/PT may be needed)	-Speak to Case Manager if/when client requires equipment for EOL care in the home	-Consider mouth swabs -Assess Equipment/Needs -Consider hospital bed mattress overlay - Incontinence supplies needed? - Possible foley catheter	**Consider:**	- Incontinence supplies needed (provided by CCAC for palliative client approximately two months)			-Advise CCAC Case Manager if SRK and/or pain pump are in the home
Education	-Nutrition i.e. Effects of disease process, appetite may decrease (MOW may not be appropriate) -Home Pronouncement Planning	-Finalize Home Pronouncement Plan	-Plan for subq injections -Turning/positioning - Health teaching pro/cons IV hydration\invasive Tx etc keeping in mind client's right to self determination		-Review Home Pronouncement Plan with care givers (i.e. call nurse, not 911) -Review signs of impending death			
Communication Needs	-Communicate changing condition to Case Manager ongoing -Advise Case Manager – PPS 60 via Voice Mail	-Communicate changing condition with physician and/or palliative physician if involved			-Advise Case Manager via Voice Mail that PPS now 30 *-Keep physician involved with pronouncement /certification* up to date with changing condition	Ensure physician availability for Certification of death		Contact: 1. Physician 2. Funeral Home 3. Advise CCAC of death and plan for transition visit or not

PALLIATIVE PERFORMANCE SCALE

Victoria Hospice

Palliative Performance Scale (PPSv2)
version 2

PPS Level	Ambulation	Activity & Evidence of Disease	Self-Care	Intake	Conscious Level
100%	Full	Normal activity & work No evidence of disease	Full	Normal	Full
90%	Full	Normal activity & work Some evidence of disease	Full	Normal	Full
80%	Full	Normal activity *with* Effort Some evidence of disease	Full	Normal or reduced	Full
70%	Reduced	Unable Normal Job/Work Significant disease	Full	Normal or reduced	Full
60%	Reduced	Unable hobby/house work Significant disease	Occasional assistance necessary	Normal or reduced	Full or Confusion
50%	Mainly Sit/Lie	Unable to do any work Extensive disease	Considerable assistance required	Normal or reduced	Full or Confusion
40%	Mainly in Bed	Unable to do most activity Extensive disease	Mainly assistance	Normal or reduced	Full or Drowsy +/- Confusion
30%	Totally Bed Bound	Unable to do any activity Extensive disease	Total Care	Normal or reduced	Full or Drowsy +/- Confusion
20%	Totally Bed Bound	Unable to do any activity Extensive disease	Total Care	Minimal to sips	Full or Drowsy +/- Confusion
10%	Totally Bed Bound	Unable to do any activity Extensive disease	Total Care	Mouth care only	Drowsy or Coma +/- Confusion
0%	Death	-	-	-	-

Instructions for Use of PPS (see also definition of terms)

1. PPS scores are determined by reading horizontally at each level to find a 'best fit' for the patient which is then assigned as the PPS% score.

2. Begin at the left column and read downwards until the appropriate ambulation level is reached, then read across to the next column and downwards again until the activity/evidence of disease is located. These steps are repeated until all five columns are covered before assigning the actual PPS for that patient. In this way, 'leftward' columns (columns to the left of any specific column) are 'stronger' determinants and generally take precedence over others.

   Example 1: A patient who spends the majority of the day sitting or lying down due to fatigue from advanced disease and requires considerable assistance to walk even for short distances but who is otherwise fully conscious level with good intake would be scored at PPS 50%.

   Example 2: A patient who has become paralyzed and quadriplegic requiring total care would be PPS 30%. Although this patient may be placed in a wheelchair (and perhaps seem initially to be at 50%), the score is 30% because he or she would be otherwise totally bed bound due to the disease or complication if it were not for caregivers providing total care including lift/transfer. The patient may have normal intake and full conscious level.

   Example 3: However, if the patient in example 2 was paraplegic and bed bound but still able to do some self-care such as feed themselves, then the PPS would be higher at 40 or 50% since he or she is not 'total care.'

3. PPS scores are in 10% increments only. Sometimes, there are several columns easily placed at one level but one or two which seem better at a higher or lower level. One then needs to make a 'best fit' decision. Choosing a 'half-fit' value of PPS 45%, for example, is not correct. The combination of clinical judgment and 'leftward precedence' is used to determine whether 40% or 50% is the more accurate score for that patient.

4. PPS may be used for several purposes. First, it is an excellent communication tool for quickly describing a patient's current functional level. Second, it may have value in criteria for workload assessment or other measurements and comparisons. Finally, it appears to have prognostic value.

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Definition of Terms for PPS

As noted below, some of the terms have similar meanings with the differences being more readily apparent as one reads horizontally across each row to find an overall 'best fit' using all five columns.

1. Ambulation
The items '**mainly sit/lie**,' '**mainly in bed**,' and '**totally bed bound'** are clearly similar. The subtle differences are related to items in the self-care column. For example, 'totally bed 'bound' at PPS 30% is due to either profound weakness or paralysis such that the patient not only can't get out of bed but is also unable to do any self-care. The difference between 'sit/lie' and 'bed' is proportionate to the amount of time the patient is able to sit up vs need to lie down.

'**Reduced ambulation'** is located at the PPS 70% and PPS 60% level. By using the adjacent column, the reduction of ambulation is tied to inability to carry out their normal job, work occupation or some hobbies or housework activities. The person is still able to walk and transfer on their own but at PPS 60% needs occasional assistance.

2. Activity & Extent of disease
'**Some**,' '**significant**,' and '**extensive'** disease refer to physical and investigative evidence which shows degrees of progression. For example in breast cancer, a local recurrence would imply 'some' disease, one or two metastases in the lung or bone would imply 'significant' disease, whereas multiple metastases in lung, bone, liver, brain, hypercalcemia or other major complications would be 'extensive' disease. The extent may also refer to progression of disease despite active treatments. Using PPS in AIDS, 'some' may mean the shift from HIV to AIDS, 'significant' implies progression in physical decline, new or difficult symptoms and laboratory findings with low counts. 'Extensive' refers to one or more serious complications with or without continuation of active antiretrovirals, antibiotics, etc.

The above extent of disease is also judged in context with the ability to maintain one's work and hobbies or activities. Decline in activity may mean the person still plays golf but reduces from playing 18 holes to 9 holes, or just a par 3, or to backyard putting. People who enjoy walking will gradually reduce the distance covered, although they may continue trying, sometimes even close to death (eg. trying to walk the halls).

3. Self-Care
'**Occasional assistance'** means that most of the time patients are able to transfer out of bed, walk, wash, toilet and eat by their own means, but that on occasion (perhaps once daily or a few times weekly) they require minor assistance.

'**Considerable assistance'** means that regularly every day the patient needs help, usually by one person, to do some of the activities noted above. For example, the person needs help to get to the bathroom but is then able to brush his or her teeth or wash at least hands and face. Food will often need to be cut into edible sizes but the patient is then able to eat of his or her own accord.

'**Mainly assistance'** is a further extension of 'considerable.' Using the above example, the patient now needs help getting up but also needs assistance washing his face and shaving, but can usually eat with minimal or no help. This may fluctuate according to fatigue during the day.

'**Total care'** means that the patient is completely unable to eat without help, toilet or do any self-care. Depending on the clinical situation, the patient may or may not be able to chew and swallow food once prepared and fed to him or her.

4. Intake
Changes in intake are quite obvious with '**normal intake**' referring to the person's usual eating habits while healthy. '**Reduced'** means any reduction from that and is highly variable according to the unique individual circumstances. '**Minimal**' refers to very small amounts, usually pureed or liquid, which are well below nutritional sustenance.

5. Conscious Level
'**Full consciousness**' implies full alertness and orientation with good cognitive abilities in various domains of thinking, memory, etc. '**Confusion**' is used to denote presence of either delirium or dementia and is a reduced level of consciousness. It may be mild, moderate or severe with multiple possible etiologies. '**Drowsiness**' implies either fatigue, drug side effects, delirium or closeness to death and is sometimes included in the term stupor. '**Coma**' in this context is the absence of response to verbal or physical stimuli; some reflexes may or may not remain. The depth of coma may fluctuate throughout a 24 hour period.

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The Palliative Performance Scale version 2 (PPSv2) tool is copyright to Victoria Hospice Society and replaces the first PPS published in 1996 [J Pall Care 9(4): 26-32]. It cannot be altered or used in any way other than as intended and described here. Programs may use PPSv2 with appropriate recognition. Available in electronic Word format by email request to judy.martell@viha.ca
Correspondence should be sent to Medical Director, Victoria Hospice Society, 1952 Bay Street, Victoria, BC, V8R 1J8, Canada

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Patient & Family Psychosocial Aspects by PPS

Physical	Emotional	Intake	Communication
Symptomatic, Decreased energy Poor self-care	Need to engage, spiritual questions Overwhelmed, feeling helpless	Decrease in appetite, interest	Differences in coping arise
Increased care and symptom management needs More stressed with increased care needs	Waves of helplessness hopeless feelings, denial vs. reality Struggle to keep up with changes, involvement vs. separation	More demanding, particular	Depends on energy, intimate conversations are difficult
More dependence, key body changes Fatigued	Worn out, closure/ endings important Strengths & struggles intensify, lots of questions	Small amounts	Often impeded
Burden of disease means drowsiness, exhaustion Continued fatigue, health risks	Mind noticeably affected, pre-death restlessness Emotional conflicts, sense of loss (of pt., control)	Minimal sips	Respond to stimuli, symbolic language
Unresponsive, systems shutdown 'Auto-pilot', exhausted	Possible agitation, re-focusing Focusing on death, relief & sadness/anger	Mouth care only	Hearing and touch decline
Death has occurred May be flat or temporarily energized	Varying reactions and needs		May continue to experience pt.'s presence

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PALLIATIVE PERFORMANCE SCALE (PPS)
NURSING CARE PLANS

The following are guidelines for nursing actions to be implemented at certain performance levels for the Palliative Patient

PPS	NURSING ACTIONS
PPS 60	Advise for the CCAC Case Manager that a reassessment visit may be planned.
PPS 50	• Review medication profile and treatment plan. • Develop a plan for alternate route of administration of medications. • Assessment of clients' needs and services from case manager if not previously done at Level 60. • Initiate conversation regarding end of life wishes and desires. • Communicate Advanced Directives as per Agency's Guidelines. • If the desire is to die away from home, plan with the Physician for a direct admission to an appropriate facility when death is imminent. • Initiate Pronouncement Plan if appropriate. • Investigate the possibility of Extended Health Care Coverage. • Consider the use of the Symptom Response Kit. 24-Hour Physician availability is required. • Safety assessment
PPS 30	• Advise the CCAC Case Manager of PPS. • Re-assess Skin Care Guidelines. • Re-assess Mouth Care Guidelines. • Finalize Pronouncement Plan. • Re-assess medication profile and treatment plans. • Re-assess psychosocial / spiritual needs.

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Guidelines for Use of the Edmonton Symptom Assessment System (ESAS) in Grey Bruce

Purpose of ESAS

This tool is designed to assist in the screening and assessment of symptoms common in persons with cancer and other life threatening illnesses: pain, tiredness, nausea, depression, anxiety, drowsiness, appetite, wellbeing and shortness of breath and bowel function. A line labelled "Other Problem"can be used for a symptom unique to the person. The severity at the time of assessment of each symptom is rated from 0 to 10 on a numerical scale, 0 meaning that the symptom is absent or is not an issue and 10 that it is of the worst possible severity. The person and family should be taught how to complete the scales. It is the person's opinion of the severity of the symptom that is the "gold standard" for symptom assessment and management.

The ESAS graph provides a clinical profile of symptom severity over time. It provides a context within which symptoms can begin to be understood. It is not a complete symptom assessment in itself. For good symptom management to be attained the ESAS must be used as just one part of a holistic clinical assessment.

How to do the ESAS

The person determines the most appropriate number to indicate where the symptom is between the two extremes.

No pain 0 1 2 3 4 5 6 7 8 9 10 Worst possible pain

The circled number is then transcribed by the nurse / physician onto the symptom assessment graph in the health record. The person may keep a log of scores in a personal diary format.

Synonyms for words that may be difficult for some to comprehend include the following:

Depression- blue or sad

Anxiety - nervousness or restlessness

Tiredness- decreased energy level (but not necessarily sleepy)

Drowsiness- sleepiness

Wellbeing- overall comfort, both physical and otherwise; truthfully answering the question, "How are you?"

When to do the ESAS

a. In palliative home care, it is a good practice to complete and graph the ESAS during each telephone or personal contact. If symptoms are in good control, and there are no predominant psychosocial issues, the ESAS can be completed weekly for persons at home. In hospital, the ESAS should be completed daily. In Long Term Care settings, the ESAS should be completed on admission, with a change in condition and at quarterly reviews. Palliative consultants will utilize this tool in their assessment on each visit.
b. If the person's symptoms are not in good control, daily assessments need to be reviewed by the attending health professionals and treatment regimes adjusted until the symptoms are well-controlled (see "c" below).
c. If symptom management is not attained, or other related issues arise, telephone or onsite consultations by members of the Palliative Care Team are available. ….

(OVER)

Who should do the ESAS
Ideally, the person fills out his/her own ESAS. However, if the person is cognitively impaired or for other reasons cannot independently do the ESAS, then it is completed with the assistance of a caregiver (a family member, friend, or health professional closely involved in the person's care). If the person cannot participate in the symptom assessment, or refuses to do so, the ESAS is completed by the caregiver alone.

Note: When the ESAS is completed by the caregiver alone, the most subjective symptom scales are not done (i.e. tiredness, depression, anxiety, and wellbeing are left blank) and the caregiver assesses the remaining symptoms as objectively as possible, i.e. pain is assessed on the basis of a knowledge of pain behaviours, appetite is interpreted as the absence or presence of eating, nausea as the absence or presence of retching or vomiting, and shortness of breath as laboured or accelerated respirations that appears to be causing distress for the person.

When a person is irreversibly cognitively impaired and cannot participate in doing the ESAS, the caregiver continues to complete the ESAS as outlined above.

The method in which the ESAS was completed must be indicated in the space provided at the bottom of the ESAS Numerical Scale and the ESAS Graph as follows:

Bottom of ESAS Numerical Scale		**Bottom of ESAS Graph**			
Completed by (check one)		Completed by			← insert appropriate letter from key in date column (date indicated at the top of form)
Person	☐	P = Person	☐		
Caregiver	☐	C = Caregiver	☐		
Caregiver – assisted	☐	A = Caregiver - assisted	☐		

Where to document the ESAS

The ESAS is always done using the ESAS Numerical Scale. To ensure accuracy of the scores, the scores should be determined prior to viewing the diary or the graph. **The results can be transcribed by the person or caregiver onto a diary. The nurse or physician transfers the scores onto the ESAS Graph.** Graphing symptom severity directly onto the ESAS Graph or diary without the use of the numerical scale is not a valid use of the ESAS nor a reliable method of symptom assessment (attention to the graphed historical trend may affect the current scores and so undermine one of the main purposes of the ESAS, i.e. to assess the current symptom profile as accurately as possible).

Other Information About the ESAS

The ESAS Graph also contains space to add the patient's Mini-Mental Status Exam score. The "normal" box refers to the normal range for the patient, based on age and education level (see instructions for MMSE).

The CAGE Score is helpful in identifying issues of concern related to possible tendency to addiction.

Other visual analogue scales such as faces or scales in other languages are available for those who do not read or cannot understand English.

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Name:

CTN:

Edmonton Symptom Assessment System
Numerical Scale

Please circle the number that best describes:

No pain	0	1	2	3	4	5	6	7	8	9	10 Worst possible pain
Not tired	0	1	2	3	4	5	6	7	8	9	10 Worst possible tiredness
Not nauseated	0	1	2	3	4	5	6	7	8	9	10 Worst possible nausea
Not depressed	0	1	2	3	4	5	6	7	8	9	10 Worst possible depression
Not anxious	0	1	2	3	4	5	6	7	8	9	10 Worst possible anxiety
Not drowsy	0	1	2	3	4	5	6	7	8	9	10 Worst possible drowsiness
Best appetite	0	1	2	3	4	5	6	7	8	9	10 Worst possible appetite
Best feeling of wellbeing	0	1	2	3	4	5	6	7	8	9	10 Worst possible feeling of wellbeing
No shortness of breath	0	1	2	3	4	5	6	7	8	9	10 Worst possible shortness of breath
Best bowel function	0	1	2	3	4	5	6	7	8	9	10 Worst possible bowel function
Other problem	0	1	2	3	4	5	6	7	8	9	10

Person's Name _____

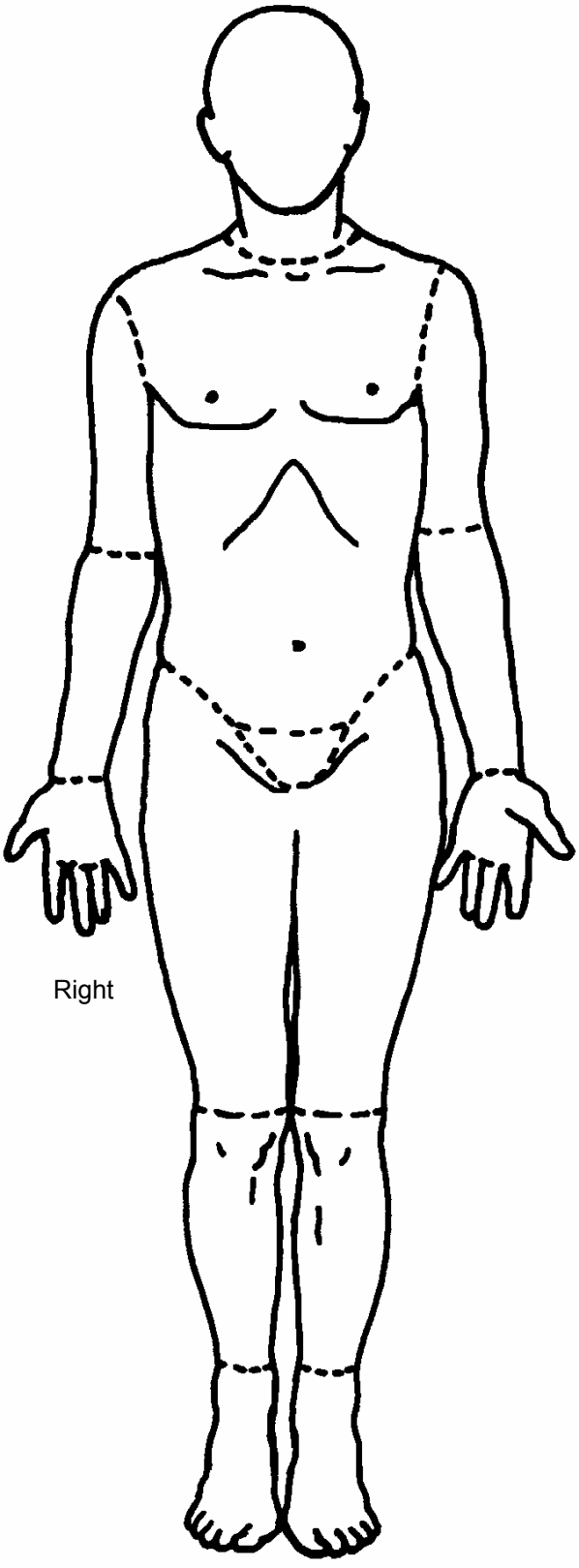
Date_____ Time _____

Complete by (check one)

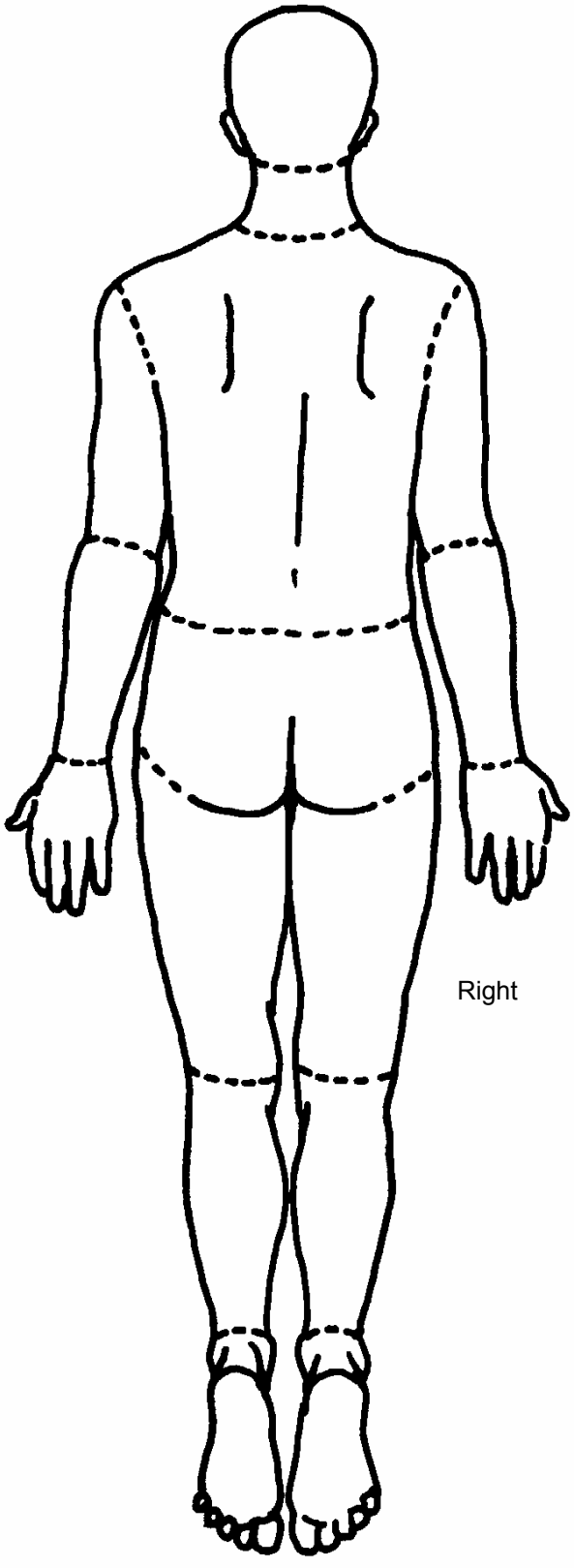
- ☐ Person
- ☐ Caregiver
- ☐ Caregiver - assisted

BODY DIAGRAM ON REVERSE SIDE

Please mark on these pictures where it is you hurt.



Right



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Palliative Prognosis Index (PPI)

The PPI is a Palliative Prognosis Index and should be used only as a guideline when determining the expected length of life in cancer patients. It may assist the health care professional in planning appropriate care.

PALLIATIVE PROGNOSIS INDEX (PPI) Survival Prediction: PPI Score & Classification of Patients into Three Risk Groups		
Palliative Performance Scale (PPS)	**Partial Score**	**Explanation**
10-20	**4**	**Determine the client's PPS** **Determine the PPI Partial Score.**
30-50	**2.5**	
60 – 100	**0**	
Clinical Symptom		**Assess the client's oral intake.** **Determine the PPI Partial Score.**
Oral Intake: Normal	**0**	
Moderately Reduced	**1**	
Severely Reduced	**2.5**	
Edema	**1.0**	**Assess client for Edema, Dyspnea or Delirium. Please note:** ➢ Edema refers to peripheral bilateral edema – due to low albumin ***not from a DVT***
Dyspnea at Rest	**3.5**	
Delirium	**4**	➢ Rule out reversible causes of Delirium – See Delirium/Confusion Guidelines
Risk Group Mean Survival +/- Standard Error	**Total Score**	**Add the total partial scores.**
A. 155 days +/- 20 days	**≤2**	**Expected length of life based on the Total Partial Score.**
B. 89 days +/- 7.7 days	**>2-4**	
C. 18 days +/- 2.9 days	**>4**	
The results have been validated with cancer patients with solid tumour		
Reference: Locke, M. & Chow, E. (2001). Survival prediction: Doctor how long do I have to live? Patient Care Canada 2(12): 46-47.		

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#8 WEBSITE (April '04)

"Pearls" from the Palliative Medicine Team

From University of Calgary, Update for Palliative Physicians

Two great websites for both the clinical team and our patients/families

www.plwc.org
This is an **official website for ASCO (American Society or Clinical Oncology**).
plwc = people living with cancer.
The small "business cards" from ASCO can be handed to patients/families who express an interest include the following:

"The American Society of Clinical Oncologists and your cancer care team invite you to visit the People Living with Cancer website (www.plwc.org) for accurate, reliable, and oncologist approved information about cancer."

On the website you will find:
Cancer Specific Sections
Clinical Trial Information
Medical Dictionary and Drug Database
Discussion Groups
Family and Friend Sections
Symptom Management
Coping Strategies
Oncologist Directory
And much more…

www.virtualhospice.ca
Just launched (Feb 6, 2004) **Canadian Virtual Hospice**
"The new bilingual website provides high quality health information about death and dying, as well as a forum for Canadian to share their experiences with illness or grief"

"Targeted at patients, their family and friends, health care professionals, and health care volunteers, the Canadian Virtual Hospice is a unique venue for the sharing of credible information and support, eliminating barriers of time and place through the use of the Internet to improve palliative care in Canada."

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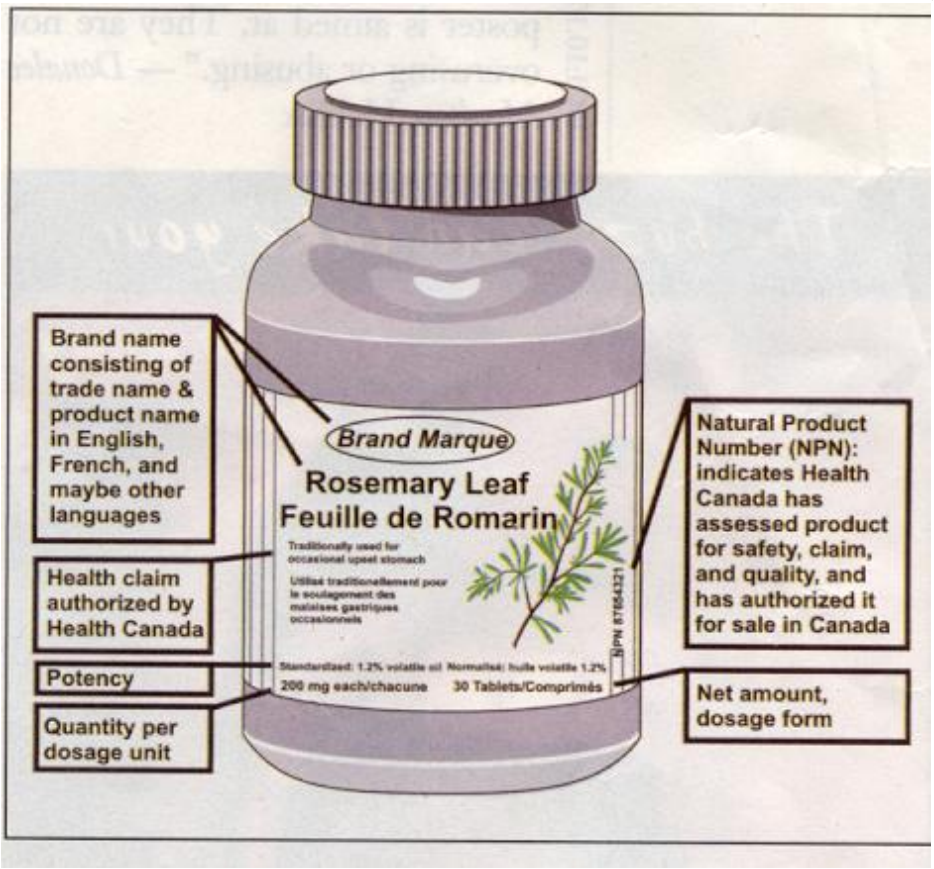
#9 LABELS – Understanding What they Mean (May 2004)

"Pearls" from the Palliative Care Team

Natural Health Products: new labels, new credibility?



Regulations came into effect Jan 1, 2004 to cover the sale of 50,000 natural health products under Health Canada's Natural Health Products Directorate. This directorate will require manufacturers to obtain product licences for all their remedies within 5 years for existing products, and immediately for new ones. The Directorate will also be publishing a compendium.

There is controversy; some feel that the bar has not been raised high enough. These products do not have to meet Food and Drug Regulations. Instead, these natural products can have labelling indicating whether the therapeutic health claims are "scientific" or "traditional". For example, garlic might be labelled "traditionally used for treating colds and flu" indicating to the consumer that this is based on traditional evidence and not on new scientific studies.

CMAJ March 16,2004; 170(6)

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#27 ETHICAL DECISION MAKING (November '05)
"Pearls" from the Palliative Medicine Team

Every decision is embedded in rich context. There are times when the right course of action may be difficult to discern; when there is not only one right choice, or when there is disagreement. There are legal requirements and ethical principles to follow. This is a framework which might be helpful to have a robust discussion to lead to a decision of care.

1) **right persons** to be involved; consider who the patient would include, consider the multidisciplinary team members. Is there a need for a special mediator? Would the family wish to involve their spiritual leader?
2) **right place** a room that encourages open conversation, minimal interruptions, enough chairs to everyone
3) **right time** the discussion must be timely with respect to the medical condition, and enough time must be given to the conversation. The patient/family may not come to a decision at the first meeting. Coming to decisions is a process not an event.
4) **right process**. Below is a framework to give focus to the discussion[i]

Medical Indications	Patient Preference
Quality of Life	Contextual Features

Medical Indication

Review the diagnosis, prognosis, current situation, treatment options. Review the goals of care. What will the proposed treatment do; what will it not do. What are the probabilities. What are the risks, burdens, potential benefits. e.g. if the goal of care has been comfort care at end of life in the home, will this treatment enhance meeting this goal?

Patient Preference

This is the ethical principle of autonomy embedded in our legal framework. Informed consent, capability, competency and the substitute decision maker (SDM) are all elements of our legal system. The role of the SDM is to use all available information, consider the patient's goals and values to come to a decision that the patient would have wanted.

Quality of Life

Only the patient can make a judgement on their quality of life; physicians notably judge patient's quality of life lower than the patient does. Quality of life is subjective. We need to be aware of our prejudices (-isms: ageism, classism, sexism). Some patients view IV, SQ injections as a detriment to their quality of life, a burden too large to pay for benefits; others accept them readily.

Contextual Features

Every decision is made in a context – social, psychological, physical, ethical, religious, financial. While discussing treatment options, this might include such things as the necessity of transfer to hospital for the first dose of antibiotic IV, or admission to institute TPN. This might include the lack of resources to meet a goal of staying at home.

Used with permission, Regional Palliative Care Program, Capital Health, Edmonton, AB, 2003

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[i] Clinical Ethics, Jonsen, Siegler, Windslade
ISBN 0-07-105392-1

PALLIATIVE CARE: PAIN MANAGEMENT

PAIN MANAGEMENT STEPS:

Screen for pain: ask regularly (i.e. pain as the 5th vital sign, use ESAS√) and observe for behaviours indicative of pain.
Assess to determine the etiology of the pain√
Initiate interventions considering the patient's goals, PPS√, pain type, kidney/liver function.
Monitor and document the efficacy of each intervention using a pain intensity scale of 0 – 10.
Assess efficacy of breakthrough doses one hour post oral dose, half hour post s/c dose, 5 – 10 min post IV dose.
Reassess & revise the plan as necessary until goals are met.
Consult with a palliative care expert when comfort goals are not being met.

OPIOID DOSAGE:

The appropriate dose of opioid is the amount that manages the pain with the fewest side effects.
There is no ceiling dose unless using a mixed analgesic such as oxycocet, which has a daily limit of 2.6 gm. of acetaminophen

COMMON OPIOID SIDE EFFECTS:

Constipation: is universal and tolerance does not occur. Consider osmotic & stimulant laxatives daily, titrated to effect
Nausea/vomiting: consider CTZ, D-2 antagonist as a prophylactic measure; tolerance may develop
Sedation√: Usually temporary; level 3 drowsiness may occur. If sedation is persistent, consider opioid rotation or use of methylphenidate. Consider the PPS

MUST KNOW:

Pseudoaddiction describes inappropriate behaviours that may occur when pain is under treated. The behaviours resolve when pain is effectively managed. Opioid tolerance and physical dependence are physiological and do NOT equate with addiction√. Most patients over time do become physically dependent on opioids√. If treatment (e.g. radiation) results in decreased pain, then gradually decrease opioids. Too much opioid may lead to sedation as the pain level decreases.

EQUIANALGESIC DOSE (approximate only)

Drug	PO	SC or IV
Morphine	20 mg	10 mg
Hydromorphone	4 mg	2 mg
Oxycodone	10 mg	NA
Codeine	200 mg	120 mg

Two Tylenol # 3's are approximately equal to morphine 6 mg po plus acetaminophen 600 mg.
Two Percocet are approximately equal to morphine 20 mg po plus acetaminophen 650 mg.
Remember incomplete cross-tolerance√
Methadone is used for analgesia. It has unusual pharmacokinetics and multiple interactions with other drugs√. Physicians require an exemption (license) to prescribe
methadone for pain management. It is strongly recommended that the prescribing physician be contacted.

TITRATION OF OPIOIDS

Start with q4h around the clock (ATC) dosing with immediate release (IR) opioid and titrate to effect or until side effects become unmanageable. When titrating, allow the opioid to reach steady state before increasing the regular around the clock (ATC) dose. Steady state occurs at 4 – 5 times the drug half-life. Half-life depends on the particular opioid and whether it is immediate or slow release. Generally, immediate release opioids can be titrated every 24 hours and sustained release opioids can be titrated every 48 – 60 hours.
Once the steady state has been reached, a new order for the ATC dose of opioid is calculated based on the TOTAL opioid dose administered in the previous 24 hours (break through (BT) doses plus regular ATC doses). Use clinical judgment in determining the new ATC order.
Consider opioid rotation for unmanageable side effects and adjuvant interventions for difficult to manage pain.
The Fentanyl Patch (**LU 201**) is a slow release form of a quick acting medication (fentanyl). Do not titrate to a stronger patch more rapidly than every 6 days. If pain is not managed use adequate BT doses, using IR opioids e.g., morphine, hydromorphone, until it is safe to titrate the patch √

BREAKTHROUGH (BT) DOSES

Always order a BT, immediate release dose; whenever possible use the same opioid as is being administered on a regular basis. The oral BT dose is 10% of 24hr ATC dose and ordered q1h po prn. The CSCI /IV, BT/bolus dose is 50-100% of the regular hourly sc/IV dose and is ordered q ½ -1 hr prn.

OPIOID ROTATION

When rotating opioids, determine the equianalgesic dose and then **decrease the dose of new drug by 30%** to account for incomplete cross-tolerance √. Use breakthrough (BT) doses and titrate to effect.

OPIOID TOXICITY

Metabolites of morphine and to a lesser extent, hydromorphone must be cleared renally; anyone with renal compromise (e.g., the elderly) is at risk for developing symptoms such as myoclonus or delirium. Suspect opioid toxicity if increased agitation occurs.
Myoclonus may be an early warning sign of opioid toxicity.
Dehydration may increase risk of toxicity.

OPIOID OVERDOSE

Use sedation scale to determine level of sedation√ Consider PPS
Step 1. Stimulate the person if sedation is increasing.
Step 2. If sedation is unexpected and the sedation score is ≥ 3
and respiratory rate is ≤ 6/min, consider judicious use of naloxone. If too much naloxone is given, it will precipitate a pain crescendo. Starting dose 1ml of 0.04 mg/ml naloxone dilution s/c, IV stat√ and q 5-10 min until sedation scale < 3.

FENTANYL PATCH - do **not** use for rapidly escalating pain or in an opioid naïve person√; do not cut reservoir patch.
Patches are changed q72h (occasionally q48h); Fentanyl does not have a short acting oral equivalent for BT pain√

Starting fentanyl:

Starting dose: 100 mg oral morphine per day is approximately equal to fentanyl 25 mcg patch q 72 hours√
An appropriate BT dose for fentanyl 25 mcg patch would be morphine 10 mg po or hydromorphone 2 mg po q1h prn
Regular dosing of the q4h (IR) oral opioid is continued for 12 hours **after** applying a fentanyl patch.
The patch can be applied simultaneously with the administration of the last dose of a long acting (q12h) oral opioid or 12 hours after administration of a q24h opioid.

Stopping fentanyl:

Commence regular ATC opioid dosing 12 hours **after** removing the patch; give BT doses as required

CONSIDER OPIOID ROTATION if one of the following occurs:

Decreased renal function (neurotoxic metabolite build up associated with morphine and possibly hydromorphone)
Intractable nausea and/or vomiting; delirium (hyperactive or hypoactive); myoclonus, dysphoria, persistent intolerable sedation

ANALGESICS TO AVOID

meperidine (Demerol®) neurotoxic metabolite accumulation
pentazocine (Talwin®) agonist-antagonist with severe psychomotor effects

INCIDENT PAIN/PROCEDURAL PAIN

Pre-empt predictably occurring pain by using a prn dose in advance; use a short acting opioid and administer prior to the procedure or event. Allow 1 hour following po administration and ½ hour following s/c for the opioid to reach peak effect.
Fentanyl Injectable* can be used sublingually for incident or procedural pain √
Consider Emla ® Topical Cream for painful IV starts

ETIOLOGY OF PAIN is essential to its management

Opioids are first line, then consider appropriate co-analgesic/ adjuvant for each pain syndrome (e.g., bone, nerve, inflammatory, intracranial pressure, ischemia, muscle spasms)

ADJUVANT INTERVENTIONS for:

Neuropathic Pain:
Radiation of tumour to relieve tumour pressure
TCA and or antiepileptic meds; common drugs used are amitriptyline, nortriptyline, carbamazepine, valproic acid, gabapentin*: √ for starting dose and titration guidelines
pregabalin*:√ indicated for diabetic peripheral neuropathy and postherpetic neuralgia
Anaesthetic consult for nerve block
Bone Pain: NSAIDs, bisphosphonates, corticosteroids, radiation, consider stabilization
Liver Capsule Pain: corticosteroids
Tumour expanding in a small space: corticosteroids, radiation
Inflammatory Pain: NSAIDs, corticosteroids
Raised intracranial pressure: (from intracranial tumours) – corticosteroid, radiation, neurosurgery
Muscle spasms: benzodiazepine, or baclofen

Developed by Southwest Regional Palliative Care Team, chaired by Dr. Charmaine Jones, B.Sc.,M.D.,A.B.H.P.M.,F.C.F.P. √.

Web Sites: www.painCare.ca; www.healthline.ca; www.palliativecareswo.ca

Symbols: *Indicates not covered by ODB; √ Indicates see website

PALLIATIVE CARE: SYMPTOM MANAGEMENT

BOWEL ROUTINE (daily dosing and prn)
Start individually or in combination concurrently with opioids; titrate to effect:

- sennosides (1-8 tablets) OD – BID (mild stimulant)
- lactulose 15 – 60 ml OD to QID (osmotic laxative)
- bisacodyl 5 mg (1 – 4 tablets) OD – BID (stronger stimulant)
- bisacodyl suppository PRN
  - milk of magnesia 15 – 60 ml OD to QID(osmotic laxative – caution in renal failure)
- fleet enema PRN

G.I. PROTECTION

- H2 antagonist, e.g., famotidine 40 mg BID
- cytoprotector, e.g., misoprostol 200 mg TID – QID
- Proton Pump Inhibitor (PPI), Pariet® 20 mg daily

HYPERCALCEMIA (Corrected value over 2.65 mmol)

- corrected calcium = calcium level + (40 minus the albumin level x .02) or to correct, add 0.02 mmol for every Gm. albumin below normal
- hydration with normal saline
- pamidronate 60 – 90 mg IV in 500 ml normal saline @ 125 ml/hour (q3-4 weeks) – wait 72 hours to recheck levels
- zoledronic acid* 3- 4 mg IV over 15 minutes q 3- 4 weeks

ACUTE SEIZURE CONTROL: If patient is actively seizuring:

- lorazepam 2 mg buccally or sc stat and 2 mg q30 min buccally or sc prn until controlled
- **Or** midazolam * 5 – 10 mg sc or IM stat and q30 min until controlled

Ongoing Maintenance if/when patient no longer able to swallow midazolam 20 – 60 mg per CSCI/24 hr

- phenobarbital 120 – 240 mg sc q 8-12 hr
- carbamazepine supp * 25% increase from oral dose; or 8 – 20 mg/kg/day, BID or QID
- valproic acid liquid per rectum 15 – 60 mg. kg/day, BID or QID

MYOCLONIC JERKING (can be due to opioid toxicity)

- consider hydration
- consider side effects of medications
- check calcium and creatinine blood levels
- opioid rotation (example morphine to hydromorphone to fentanyl)
- lorazepam 1 – 2 mg po/sl/sc q6h
- clonazepam 0.5 – 2 mg po qhs

HICCUPS **(note – chlorpromazine causes orthostatic** hypotension)

- haloperidol 1 – 2.5 po/ sc q4h prn
- metoclopramide 10 – 20 mg sc*/po QID
- baclofen 10 – 20 mg q4h prn po
- methotrimeprazine 12.5 – 25 mg po/sc q6h prn

MOUTH CARE (local institutions may have own preferred formulations)

- saline or soda bicarbonate rinse and spit q1h prn
- chlorhexidine 0.2% rinse and spit q8h
- artificial saliva

Thrush **(**candidiasis)

- nystatin suspension 500,000u (5ml) QID (topical or swish and swallow); clean and soak dentures
- fluconazole 100 mg daily (LU #202); for maintenance dose 100 mg weekly

Painful Mouth

- lidocaine viscous (caution: assess swallowing)
- morphine 5- 10 mg rinse and spit; morphine is not lipophilic and binds to raw wounds in mouth

WOUNDS: morphine in intrasite gel for local analgesia√

DYSPNEA

First Line

- fan (air movement)
- oxygen √for ODB criteria
- positioning of patient for ease of breathing & comfort
- emotional support and safety, physiotherapy

Second Line

- nebulized normal saline QID – q4h
- nebulized salbutamol and ipratropium (LU #258) QID – q4h
- lorazepam 1 – 2 mg sl q1h prn for accompanying anxiety
- if on long acting opioid for pain, increase the baseline by 30% for dyspnea control
- use the adjusted breakthrough opioid dose for pain or dyspnea
- if not already on an opioid for pain, start with low dose, short acting opioid q4h for dyspnea control
- titration of opioid using pain management principles √
- recent studies have indicated that the use of systemic opioid is more effective than nebulized opioid
- dexamethasone 4 – 8 mg po/sc OD and adjust according to response.

SEVERE PROGRESSIVE DYSPNEA

- consult with a Palliative Medicine Expert
- protocol for sedation for intractable symptoms at the end-of-life may have to be enacted √

RESPIRATORY SECRETIONS

- atropine 1% ophthalmic 3 gtts sl, buccal space q1-2h prn
- glycopyrrolate * 0.2 – 0.4 mg sc (each ml = 0.2 mg) q4h. (non-sedating as does not cross blood-brain barrier)
- hyoscine hydrobromide * 0.4 mg sc q3h (also available as Transderm V patch * q 3 days – paranoia and confusion may develop in elderly patients).
- consider repositioning; suctioning is not usually indicated

NAUSEA (Consider etiology)
Prokinetics (contraindicated in complete bowel obstruction)

- metoclopramide (10 – 20 mg po/ sc*/ IV* q 4h – 6h)
- domperidone 10 – 20 mg po QID

CTZ, D2 receptor or antagonist

- haloperidol 0.5 – 2.5 mg po/ sc BID - TID

5HT3 antagonist

- ondansetron* 4 – 8 mg po/sc/ IV BID - TID

Steroid

- dexamethasone 2 – 8 mg po/ sc/ IV OD

Broad Spectrum

- methotrimeprazine 2.5 – 10 mg po/sc qhs
- prochlorperazine 5 – 10 mg po/IM/pr q4h prn

Antihistamine

- diphenhydramine – 50 mg po/sc/ IV q4h prn

Cannabinoids

- nabilone 0.5 mg – 2 mg po BID

MALIGNANT NON-OPERABLE BOWEL OBSTRUCTION

- rule out obstipation versus other causes of mechanical obstruction
- assess medications for provision of non oral route
- consider decompression

Partial Bowel Obstruction
Prokinetic

- metoclopramide 10 – 20 mg sc*/IV* q4-6 h

Anti Inflammatory

- dexamethasone 2 – 4 mg sc/IV OD-BID

Antiemetic

- haloperidol 0.5 – 1.0 mg sc/po q 8-12h

Antispasmodic

- hyoscine butylbromide* 10 – 20 mg sc/IV q 4-6h

Full Bowel Obstruction
Stop prokinetic medications
Continue anti-inflammatory,antiemetic,antispasmodic

- decrease IV fluids
- octreotide* 100 – 300 mg sc BID – reduces gastric secretions

MALIGNANT ASCITES
Before paracentesis, maximize diuretics usage to decrease albumin loss

- furosemide 40- 80 mg BID po/IV*(give @ 0800 hrs and 1400 hrs)plus spironolactone 50 – 200 mg po BID (0800 hours and 1400 hours)

Paracentesis is only for symptom relief; consider indwelling peritoneal catheter

DEPRESSION

- PC team for emotional, psychosocial support
- antidepressants (SSRI & SNRI) consider PPS
- consider concurrent use of SSRI/SNRI with methylphenidate 10 – 20 mg BID 0800 hr & noon; suggested maximum 1 mg/kg/day; d/c when SSRI/SNRI effective

EXCESSIVE SEDATION

- assess analgesic and reduce if possible
- consider opioid rotation
- methylphenidate 10 mg po 0800 hrs & 5 mg po 1400 hrs(may titrate to maximum 60 mg daily); may also improve cognitive function, activity (consider PPS)

TERMINAL RESTLESSNESS
Eliminate all possible causes, e.g. urinary retention
Consult with person and family regarding intent of interventions

- haloperidol 0.5 – 2.5 mg q6h sc plus lorazepam 1 – 4 mg sc/sl q30 min. prn, titrate to effect
- Methotrimeprazine 5 – 50 mg po/sc OD and q4h prn
- Midazolam,* Lorazepam(same as dosage for seizures)

DELIRIUM
Agitated and hypoactive (may masquerade as depression; look for disordered thinking) √
May occur at any time; identify the cause and manage

- consider opioid rotation
- haloperidol 0.5 – 5 mg q4-6h s/c prn as interim

INTRACTABLE SYMPTOMS AT END OF LIFE
Criteria for sedation for intractable symptoms: √

- verify that symptoms are intractable; encourage palliative medicine consultation
- patient/family conference with PC team to inform and obtain consent for sedation as sedation precludes communication with patient; and suggest d/c IV/parenteral feeding

Possible starting doses of medications for sedation:

- midazolam 5-10 mg sc & 30-60mg/24h per CSCI
- methotrimeprazine 25 mg sc & 10-50mg q4h prn titrate to effect, then regular dosing BID or CSCI titrated to effect
- phenobarbital: 240 mg sc & 120-240mg q4h prn titrate to effect, then regular dosing TID or by CSCI titrated to effect

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PEARLS

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#1 FENTANYL (September '03)

"Pearls" from the Palliative Medicine Team

Sometimes we order ½ **patch**: we might do this when initiating an opiate naïve patient onto the patch, or if the patient experiences side/effects to changes which are deemed too significant. DO NOT CUT THE PATCH. The half patch is achieved by using tegaderm against the skin to block absorption from half the surface area of the patch.

"**Footprinting**" or "**tiling**" is another patch maneuver. It is an attempt to "smooth" the delivery and avoid peaks and valleys. It is NOT always necessary but occasionally very helpful.
A patient on 150 micrograms/hr patch, q72 hr, experiences "too much med" on day 1, perfect day 2, and a "wearing off" on day 3. Changing the patch to 150 microgram/hr q48 hr caused heightened side-effects. The patches were changed to 3 x 50 microgram/hr patches, q 72 hr, but one patch was changed each day on a rotating basis. This is called "footprinting" or "tiling". Each 24 hr, there was a new patch delivering medication giving a "smoother" effect.

Please forward any questions/ topics for "Pearls" to us
Charmaine Jones, MD
ph: 974.7100
Fax: 974.7672

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#2 BREAK THROUGH DOSING (October '03)
"Pearls" from the Palliative Medicine Team

The purpose of BTP doses are for "occasional" use, a bad day, or occasional incident pain. If the patient needs to use the BTP dose regularly to be comfortable, that should signal that a change is needed in their baseline analgesics.

The BTP dose is **10% of the total daily dose** of opiate.
If a patient is on 300 mg MS Contin™ BID, then the BTP dose would be morphine IR (MS IR™) 50 mg q2h prn (actually 60 mg but round to the nearest strengths of available tablet), or 12 mg hydromorphone (Dilaudid™ 12 mg q2h prn).

If the patient is maintained on Duragesic™ patch, remember to increase the BTP meds according to the "chart" found in the Palliative Care Management Tools. eg, a patient on Duragesic™ 400μg/hr patch would require Dilaudid™ 32 mg (4 x 8 mg tablets) q2h prn to have an effect, or morphine IR 150 mg (3 x 50 mg tablets) q2h prn. Anything less than this is likely not to be felt.

Oxycontin™ has a biphasic release with 30% of the drug being released in the first hour. This is UNLIKE the other "contins" but this allows Oxycontin™ to be used q6h prn for BTP in persons who do not tolerate morphine or hydromorphone. This is known as "off label" use. It is not approved to be marketed for this indication and will not be in the CPS.
Choosing the strength of Oxycontin™ to be used q6h prn is a bit tricky: Remember to dose it by the 30% released in the first hour and no sooner than q6h prn. A typical order might read Oxycontin ™ 80 mg bid to control pain. To calculate the BTP dose: 10% of total daily dose would be 16 mg oxycodone. This would be delivered from a 48 mg Oxycontin™ (1/3 of 48 mg = 16). The order might read Oxycontin™ 40 mg q6h prn.

Dr. Charmaine Jones M.D., A.B.H.P.M
Palliative Care Physician

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#3 CONSTIPATION (Dr. Horen) (November '03)
"Pearls" from the Palliative Medicine Team

TREATMENT OF CONSTIPATION IN THE PALLIATIVE PATIENT
Remember "Why does this patient have this problem now?"

PSYLLIUM (Metamucil®), DOCUSATE SODIUM (Colace®)	Most palliative patients aren't able to drink adequate amounts of water to make psyillium or colace an effective laxative. The use of colace remains controversial.	**Psyllium, Metamucil and other bulk forming agents are not recommended.** Colace is classed as a surface-wetting agent.
SENNOSIDES (Senokot®)	Sennosides are a mild laxative and may not be effective.	**Use when only a mild laxative is required.**
BISACODYL (Dulcolax®)	A more effective laxative than sennosides.	**Use if sennosides are ineffective. (Discontinue the Senokot®.)**
LACTULOSE (Acilac®)	An effective laxative that can easily be added to juice, yoghurt, cereal, ice cream, etc., if not tolerated on its own.	**The use of lactulose is recommended.**
HOMEMADE REMEDIES (Prunes)	Patients often enjoy these effective mixtures rather than taking another medication.	Suggested recipe follows. Yakima Fruit Paste Recipe

<u>Bulk –forming</u> (fibre) **methylcellulose, psyllium** **mineral oil** **<u>surface-wetting agents</u>** **docusate sodium (Colace®)**	**<u>osmotic laxatives</u>** **lactulose syrup** **magnesium hydroxide suspension (Milk of Magnesia®)** **magnesium sulphate (epsom salts)** **<u>contact (stimulant) laxatives</u>** **bisacodyl (Dulcolax®)** **sennosides (Senokot®)** **sodium picosulphate (Fleet Phospho-Soda Oral Laxative®)**

WORLD HEALTH ORGANIZATION (WHO) 5-STEP PROGRAM*	
Step 1	**Stimulant laxative, eg. bisacodyl 5mg 1-2 OD**
Step 2	Increase up to 20mg (4 tabs) bid
Step 3	Add osmotic laxative (lactulose 15-30ml OD to bid)
Step 4	Replace lactulose with and emulsion (equal parts) of magnesium hydroxide (Milk of Magnesia®) and mineral oil 10-30ml OD-bid
Step 5	If above fails, use bisacodyl suppositories (10-20mg) followed by sodium phosphate (Fleet®) enema 2 hrs later _____ * WHO Symptom Relief in Terminal Illness. WHO 1998, from "Palliative Pocket Consultant", 1999.

- **Diarrhea can be a sign of fecal impaction and constipation. Remember to always rule out impaction.**
- **Rectal exams and abdominal flat plate X-rays can be helpful in the assessment of constipation.**

References:

www.palliativedrugs.com **search "constipation"**

World Health Organization "Symptom Relief in Palliative Care" ISBN 92 4 154507 0

Palliative Care Pocket Consultant "A reference guide symptom management in palliative care", second edition **ISBN 0-7872-8701-6**

BACK TO GASTROINTESTINAL INDEX

#5 DURAGESIC CONVERSION (January '04)

"Pearls" from the Palliative Medicine Team

By popular request, we will start the year with a quick review of equivalencies of the commonly used opiates. Below is a quick reference – it includes everything you need to know to enable you to do most conversions.

DURAGESIC PATCH CONVERSION				
Breakthrough Morphine Dosage (mg/prn)	**Oral Morphine (mg/day)**	**Duragesic (Σg/hr)**	**Oral Dilaudid (mg/day)**	**Breakthrough Hydromorphone (mg/prn)**
10	45 90 135	25	11.1 22.5 34.0	2
20	180 225	50	45.0 56.0	4
30	270 315	75	67.5 79.0	6
40	360 404	100	90 101	8

PO/PR	SQ/IV
morphine 10mg	5mg
codeine 100mg	Not available
hydromorphone 2mg	1mg
1 oxycocet has oxycodone 5mg	Not available

The Palliative Care Medical Team
The Hospice of Windsor and Essex County 974-7100

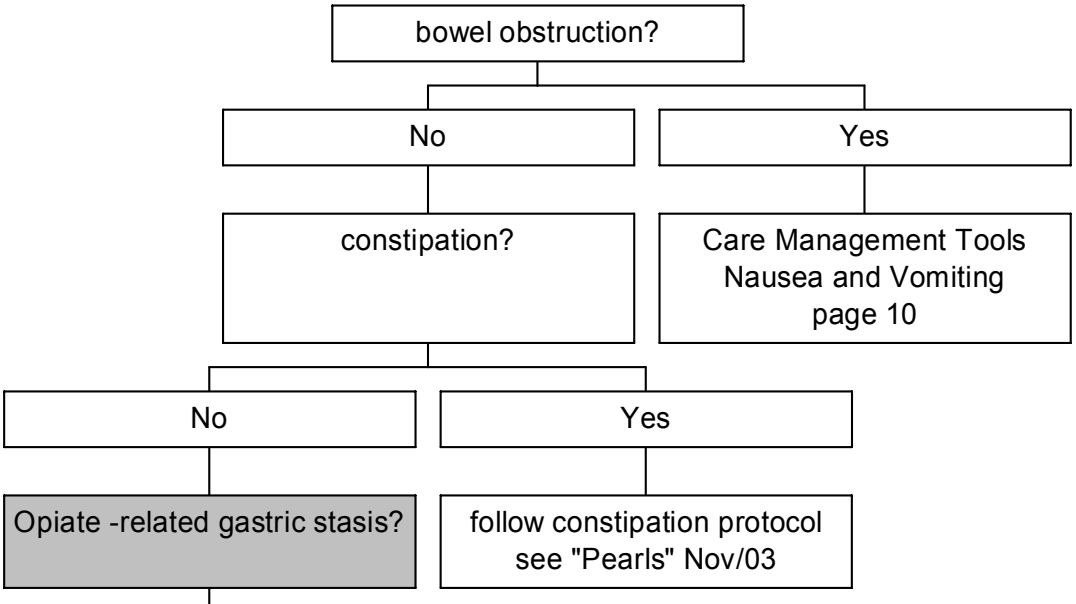
Back to Pain Management Index

#6 Hiccups (February '04)

"Pearls" from the Palliative Medicine Team

- Spasm of the diaphragm muscle
- Frequency ranges from *occasional* to *intractable* – which is exhausting as the continued hiccups interfere with all activities including sleep – also painful if bone mets in thorax
- *Why does this patient have hiccups now?*

Common Causes in Palliative Medicine:



domperidone	motilium®	10 mg tab	1-2 tabs qid
metoclopramide	maxeran® reglan®	10mg tab	1-2 tabs qid
		5 mg/ml	10-20 mg iv/sc q4h or 60-120 mg / 24 hr CSCI
non ODB			

Drugs for Intractable Hiccups

baclofen lioresal® (off label use) 10 mg tab; 5– 10 mg tid
haloperidolhaldol® (approved use po); 1-5 mg po/iv/sc prn – qid
largactilchlorpromazine® (approved use) not recommended often due to orthostatic hypotension side/effects
midazolam versed® (off label use) 5mg/ml; limited to patients whose distressing hiccups is contributing to restlessness when sedation is acceptable to aid symptom relief; 5 – 10 mg sq stat, CSCI 30-60mg/24h BACK TO GASTROINTESTINAL INDEX
Reference: www.palliativedrugs.com

#7 SECRETIONS (March '04)

"Pearls" from the Palliative Medicine Team

From a nursing colleague, Suzanne Leece, Brant Community Healthcare System quoted in www.palliativedrugs.com bulletin board, Dec 2003:

"This is something very simple – positioning the patient in a side-lying or semi-prone position with the bed flat, or with the head very slightly lower (<10 degrees) than the foot of the bed. Putting it very simply, GRAVITY works! For patients in their final hours, with a decreased level of consciousness and who can no longer control their respiratory secretions, this positioning eliminates the need for medications or suctioning. The secretions pour out (quite literally in many cases) and can be easily caught by placing some towels on the pillowcase. The noise stops almost immediately. The patient's face visibly relaxes and their eyes will often close. Tilting their face ever so slightly downwards has the added benefit of keeping their tongue forward and out of the airway. "

If medications are required to dry secretions, we are using atropine-like (anti-cholinergic) side effects of medications. This is off-label use of medications. Many palliative care programs use the following medications for this purpose:

scopolamine hydrobromide	0.4 mg/ml 0.6 mg/ml	0.6 mg sc q4h	Crosses BBB Causes sedation May cause delirium	SRK	Not ODB
	TransdermV ®	Q72hr			
hyoscine butylbromide	Buscopan® 10 mg tabs 10 mg supps 20 mg/ml	10-20 mg po/pr/sc q4h	Does not cross BBB		Not ODB
atropine eye drops	Isopto-Atropine® 1%	1-2 drops into buccal space q4h			ODB yes

Many patients will start with the scopolamine provided in the SRK (10 amps). Once started, please inquire about private insurance to cover the cost of continuing or move to atropine eye drops that are covered by ODB. The drops are absorbed from the buccal mucosa.

BACK TO RESPIRATORY INDEX

#8 WEBSITE (April '04)

"Pearls" from the Palliative Medicine Team

From University of Calgary, Update for Palliative Physicians

Two great websites for both the clinical team and our patients/families www.plwc.org
This is an **official website for ASCO (American Society or Clinical Oncology**).
plwc = people living with cancer.
The small "business cards" from ASCO can be handed to patients/families who express an interest include the following:

"The American Society of Clinical Oncologists and your cancer care team invite you to visit the People Living with Cancer website (www.plwc.org) for accurate, reliable, and oncologist approved information about cancer."

On the website you will find:
Cancer Specific Sections
Clinical Trial Information
Medical Dictionary and Drug Database
Discussion Groups
Family and Friend Sections
Symptom Management
Coping Strategies
Oncologist Directory
And much more…

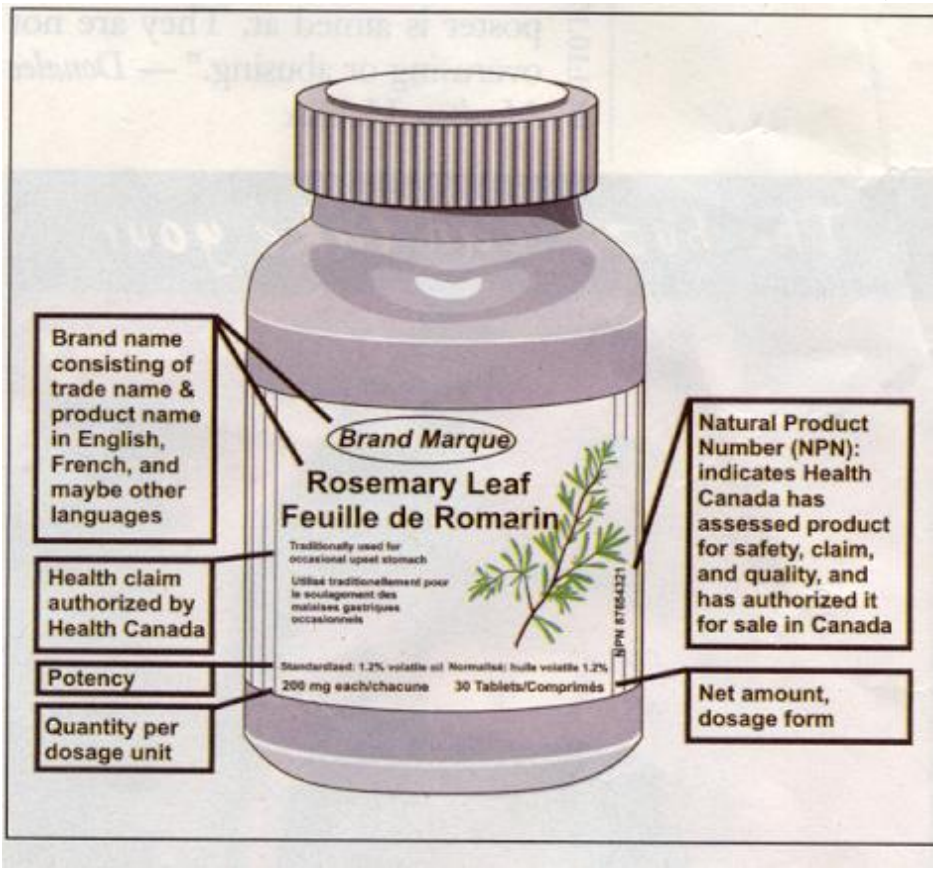
www.virtualhospice.ca
Just launched (Feb 6, 2004) **Canadian Virtual Hospice**
"The new bilingual website provides high quality health information about death and dying, as well as a forum for Canadian to share their experiences with illness or grief"

"Targeted at patients, their family and friends, health care professionals, and health care volunteers, the Canadian Virtual Hospice is a unique venue for the sharing of credible information and support, eliminating barriers of time and place through the use of the Internet to improve palliative care in Canada."

#9 LABELS – Understanding What they Mean (May 2004)

"Pearls" from the Palliative Care Team

Natural Health Products: new labels, new credibility?



Regulations came into effect Jan 1, 2004 to cover the sale of 50,000 natural health products under Health Canada's Natural Health Products Directorate. This directorate will require manufacturers to obtain product licences for all their remedies within 5 years for existing products, and immediately for new ones. The Directorate will also be publishing a compendium.

There is controversy; some feel that the bar has not been raised high enough. These products do not have to meet Food and Drug Regulations. Instead, these natural products can have labelling indicating whether the therapeutic health claims are "scientific" or "traditional". For example, garlic might be labelled "traditionally used for treating colds and flu" indicating to the consumer that this is based on traditional evidence and not on new scientific studies.

CMAJ March 16,2004; 170(6)

#10 SPIRITUAL ASSESSMENT TOOL (June 2004)

"Pearls" from the Palliative Medicine Team

"FICA" A spiritual assessment tool[12]

Faith or Beliefs

- Do you consider yourself spiritual or religious? Both? Neither?
- What things do you believe in that give meaning to your life?
- What is your faith or belief?

I Importance and Influence of Beliefs

- Is your faith or belief important in your life?
- What influence does your faith or belief have on how you take care of yourself?
- How have your beliefs influenced your behaviour during this illness?
- What role do your beliefs play in regaining your health?

C Community

- Are you part of a spiritual or religious community?
- Does the community provide support for you? How?
- Is there a person or group of people you really love or who are really important to you?

A Address Care Issues

- How would you like me, as your healthcare provider, to address these issues while caring for you?

BACK TO PSYCHOSOCIAL INDEX

[1] Hospice/Palliative Care Training for Physicians; UNIPAC 2: *Alleviating Psychological and Spritual Pain in the Terminally Ill*, 2n[d] Edition. Storey, P and Knight C. American Academy of Hospice and Palliative Medicine. ISBN 0-913113-27-1. 2003, p79

[2] Puchalski, CM. Spiritual Assessment Tool. *Innovations in End of Life Care.* 1999;1(6):1-2

#11 MYOCLONUS (July ’04)

an early warning of opiate neurotoxicity and the chance to avoid full-blown delirium

“Pearls” from the Palliative Medicine Team

Opiates cause no end-organ damage and are safer than acetaminophen (Tylenol®), and NSAIDs for extended regular use. However, some have metabolites that have neurotoxic side effects and are primarily cleared by the kidneys (Morphine, Hydromorphone). Patients with a lowered renal clearance (diabetes, elderly) are at risk to accumulate these metabolites over time and/or as the opiate dose is increased.

With the use of morphine and hydromorphone in palliative care for pain control, we must watch for neurotoxic symptoms. Untreated, these can progress to full-blown **delirium: a palliative care crisis**.

An early and evident sign of neurotoxicity is myoclonus. The signs of delirium may be more subtle in the early stages. Early evidence of delirium may be hallucinations as well as a change in alertness. However, patients will not voluntarily share the fact they are having hallucinations early on, so we need to ask. “Are you seeing things you know aren’t really there?” “Do you feel someone is in the room who isn’t?” “Do you feel someone touch you when no-one is near you?”

The change in alertness may present as a “hypervigilance” or a change in sleep pattern. This information may need to come from the family. If the family shares that the patient is “up all night” believe them, even though the patient may present as fine to us during the day.

If there are symptoms of delirium emerging in a person with myoclonus, it would be appropriate to consider **opiate rotation** rather than the addition of another medication to dampen the myoclonus as this alone would not prevent the further development of delirium, and may even enhance it.

BACK TO NEUROLOGICAL INDEX

#12 BREAKTHROUGH DOSE (August '04)

"Pearls" from the Palliative Medicine Team

When the base pain medication is <u>oral</u>, BTP medication should be
- 10% of total daily dose
- in a immediate release format
- allowed q1-2 hr prn

Your patient is on MS Contin® 120 mg bid. An appropriate BTP medication would be?

The total daily dose of base medication is 240 mg morphine. 10% of this equals morphine 24 mg so round up to the 25 mg tablet. If you prefer hydromorphone for BTP medication, divide by 5 to convert from morphine to hydromorphone; 24÷5= almost 5 mg hydromorphone so round down to a 4 mg hydromorphone tablet.

An appropriate dose for BTP medication would be either morphine IR 25 mg po q1h prn, or hydromorphone 4 mg po q1h prn.

When the base pain medication is <u>transdermal f</u>entanyl (Duragesic®), BTP is
- relative to the hourly dose delivered by the patch
- in an immediate release format
- it might need to be SQ if the patient cannot take it orally.

For a 100 μg/hr patch, an appropriate BTP dose would be either morphine IR40 mg po or 20 mg sq q1h prn OR hydromorphone 8 mg po or 4 mg sq q1h prn.

If the patch is raised to 200 μg/hr, the BTP medication is also raised to become either morphine IR 80 po or 40 mg sq q1h prn OR hydromorphone 16 mg po or 8 mg sq q1h prn

DURAGESIC PATCH CONVERSION

Breakthrough Morphine Dosage (mg/prn)	Oral Morphine (mg/day)	Duragesic (μg/hr)	Oral Dilaudid (mg/day)	Breakthrough Hydromorphone* (mg/prn)
	45		11.1	
10	90	25	22.5	2
	135		34.0	
20	180	50	45.0	4
	225		56.0	
30	270	75	67.5	6
	315		79.0	
40	360	100	90	8
	404		101	

When the base pain medication is an <u>infusion</u>, the BTP should
- start by allowing the bolus to be equal to the hourly rate q1h prn. The order might read hydromorphone 8 mg/hr iv/sq with a bolus of 8 mg iv/sq q1h prn bolus.

However, the bolus can be programmed independently of the basal rate depending on the clinical response and the patient's need. A very painful dressing might require a larger bolus dose. The patient might require a very rapid onset of action in which case we might wish to run the pump IV instead of SQ: a bolus IV will work within 1-3 minutes, a bolus sq will require 20-30 min.

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#13 SEIZURE (September '04)

"Pearls" from the Palliative Medicine Team

Not everyone with brain tumors will seizure. 20-45% of patients with primary brain tumors will have presented with seizures and a further 15-30% may develop seizures. While regular use of prophylactic antiepileptics is controversial, these patients and their families need to be prepared for seizure activity.
In the case of metastatic brain tumors, 15-20% will present with seizures and only a further 10% may develop seizures. This does mean that 70% of patients with metastatic brain involvement will NOT seizure. So perhaps the first message to these families is that seizures may not occur.

The most important thing is to be prepared; if there is deemed a risk of seizure we should have educated the family/caregivers what to do and what not to do. Depending on the clinical situation, we might consider having seizure medication drawn and ready. **The most important thing to tell the family, is that most seizures will stop on their own.**

Treatment during a Seizure:
Do'sPlace the patient in prone position
Protect the patient from hazards
Remove their eyeglasses
Loosen any tight clothing around their neck
Administer acute seizure medicine if it has been recommended

Don'tsDo not put any object into the mouth
Do not try to hold the tongue
Do not restrain the patient; do not try to still their limbs
Do not give liquids
Do not perform CPR
After the seizure
Do'sTurn the patient on their side to keep their airway clear
Observe the patient until fully awake
Call your health care provider if ;

- there are multiple seizures
- the seizure is lasting > 5 minutes
- the patient is injured or diabetic

Treatment of a Seizure in the home when goals of care are palliative:

Medication	ODB	Comments	Dosage
Midazolam injectable (IM)	No	give IM in deltoid muscle (faster absorption than gluteal).	5 mg – 10 mg IM
Diazepam rectal gel or liquid per rectum	Injectable Yes	Give the injectable diazepam via butterfly needle with the needle cut away.	28-50 kg: 10 mg
			51-75 kg: 15 mg
	Rectal Gel No		76-111 kg: 20 mg

The most important maneuver is to prevent a further seizure from occurring. The next steps will depend on the clinical situation, goals of care and prognosis.

Seizure Prophylaxis when Patient Can No Longer Use Oral Route

Previous Drug	Alternate route	ODB	Dose adjustment/notes
Valproic acid	Rectal suppositories (made by pharmacy)	no	No dose adjustment
	Syrup diluted with equal volume of tap water	yes	Try empty rectum first; hold cheeks together for 15 minutes after insertion
Carbamazepine	Rectal suppositories (made by pharmacy)	no	Same or increase dose by 25%
Phenobarbital	Rectal suppositories or parenteral solution pr		No dose adjustment
	SC	yes no	1200 mg/day CSCI 240 mg SQ (120 mg/ml) q4h x 5/day
Gabapentin	none		
Phenytoin	Switch to either per rectum a) valproic acid 15-60 mg/kg/day bid-qid or b) carbamazepine 8-20 mg/kg/day bid-qid OR c) fosphenytoin IM		 1.5 mgFosphenytoin =1.0 mg phenytoin. Extremely $$$
Midazolam	SC infusion	yes	1-3 mg /hr CSCI titrate to effect/balance side/effects

General Guidelines:

✓It is generally preferable to continue to use the same drug that has been previously successful at controlling the seizures but by a different route when the patient can no longer swallow or does not have a feeding tube.
✓In cases where a seizure occurs with a therapeutic drug level, it may be indicated at least briefly to increase the dose of corticosteroids rather than changing to another drug, or adding a second drug (with the risk of added toxicity). The benefits of increased corticosteroid should be weighed against the side/effects/prognosis
✓Combination therapy should generally be avoided because there is not evidence of additive therapeutic effect, increase chance of drug interactions, and toxicity may be enhanced.

References

Krouwer, HGJ, et al. Management of Seizures in Brain Tumor Patients at the End of Life.
Journal of Palliative Medicine **3**(4), 465-475, 2000

Towne, AR et al. Use of Intramuscular Midazolam for Status Epilepticus.
Journal of Emergency Medicine **17**(2), 3230328, 1999

www.palliativedrugs.com see midazolam, phenobarb, and anticonvulsants.

BACK TO NEUROLOGICAL INDEX

#14 DEMEROL ® (October '04)

You knew that we don't recommend Meperidine (Demerol®) but do you understand why?

"Pearls" from the Palliative Medicine Team

The University of Wisconsin[3] led the way in 1995 with a review of meperidine usage, side-effect profile and complications and recommended deletion of the oral tablet from the hospital formulary and deletion of PCA syringe dosage forms. They developed strict guidelines for its use. Why?

In 2004, the Institute for Safe Medication Practices Canada in a recent safety bulletin has focused on Meperidine. They conclude that there are only three potential uses for Meperidine; in all other situations, it would not be considered the first line opioid.

Oral meperidine is subject to rapid first pass metabolism so that about 300-mg must be given po to equal the analgesic effect 20-mg po morphine! Meperidine is metabolized by two hepatic pathways; the most clinically significant of these produces the active metabolite normeperidine which has half the analgesic effect but 2-3 times the neurotoxic potential. Normeperidine has a long half-life (14-48 hrs) and even longer if there is renal insufficiency. Repeated administration will lead to accumulation of normeperidine and predisposes the patient to neurotoxicity, including seizures.

Meperidine is poorly tolerated in the elderly and is the opioid most often associated with delirium in the geriatric surgical population.

Contrary to urban myth, there is NO specific benefit to meperidine in pain management of biliary colic, pancreatitis, nor sickle cell disease.

ISMP Canada[4] recommends healthcare facilities evaluate their use of meperidine and consider recommendations such as:

1. remove <u>oral</u> meperidine from the formulary

2. restrict the use of parenteral meperidine to only a few clinical situations

(a) prevention and treatment of drug-induced or blood product induced rigors

(b) treatment of postoperative shivering

(c) short term management of pain in individuals with normal renal, hepatic and CNS function where alternative opioids are contraindicated (true documented allergies – this would be very rare) and the use is limited to 48 hr.

Therefore, in the palliative population and when controlling pain on a chronic basis, oral Demerol ® and Demerol® IM are contraindicated.

Back to Pain Management Index

[3] University of Wisconsin Hospitals and Clinics Guidelines for Use of Meperidine
[4] ISMP Canada Safety Bulletin, Volume 4, Issue 8, August 2004.

#15 NAUSEA (November '04)

"Pearls" from C. Jones

1) Recognize: Nausea commonly exists without vomiting. Ask about appetite, response to the smell of food cooking, early satiation when eating. Nausea can interfere significantly with the joy of living and is important to recognize and treat. Nausea is so common with opiates that while vomiting may not be present, the attention to this detail can have a positive effect on quality of life.

2) Prevent the two most common causes of nausea from opiate initiation

a) constipation: see Pearls Nov 2003
b) gastroparesis: add a prokinetic agent (see following chart)

3) Assess: Why does this patient have nausea now?

11 M's and a P

Medications: digitalis, iron preparations, antibiotics, SSRI's, chemotherapy induced immediate or delayed, NSAID's, ASA, opiates
Mucosal Irritation: radiotherapy of abdomen, gastritis, gastric/duodenal ulcer
Motility: gastroparesis (**opioids**), dysmotility syndromes from extensive intra-abdominal metastases.
Mechanical: bowel obstruction, **constipation**
Metabolic: hypercalcemia, uremia, liver failure, renal failure
Meningeal Irritation
Movement Related: inner ear, cerebellar involvement
Metastases: intracranial (raised intracranial pressure), abdominal (dysmotility)
Microbes: infections
Mental: anxiety, anticipatory nausea
Myocardial: silent MI's

Pain

4) Correct Reversible Causes

5) Utilize Non-Drug Interventions at the same time as other maneuvers as appropriate
see **Windsor and Essex County Care Management Tools**
6) Utilize Medications see next page

7) Reassess and modify until nausea is controlled

8) If not improving, reconsider ?Have you got the correct cause?

Most commonly used anti-emetics in Palliative Medicine

drug	dosage forms	OD B	common dosage	comments
prokinetics				contraindicated in complete bowel obstruction
metoclopramide (Maxeran ®)	10 mg tabs	yes	10-20 mg qid po	in some sensitive persons, causes extrapyramidal symptoms as can prochlorperazine (Stemetil®) so caution when used together
	5 mg/ml injectable	no	10-20 mg IV q4h	
	5 mg/ml CSCI	yes	60 – 120 mg IV/sc/24 hrs	
domperidone (Motilium ®)	10 mg tabs	yes	10 – 20 mg qid po	does not cross BBB; does not cause sedation nor extrapyramidal symptoms. safe with prochlorperazine.
Chemoreceptor trigger zone, D2 receptor antagonist				
haloperidol (Haldol ®)	5 mg/ml injectable, 0.5,1,2,5 mg tabs	yes	0.5 – 2.5 mg po/sc bid	
steroid				
dexamethasone (Decadron ®)	0.5, 0.75,4 mg tabs 4 mg/ml injectable	yes	2-8 mg po/sc od	added to other medications for resistant nausea. mainstay for raised ICP, or severe liver involvement.
broad-spectrum				
methotrimeprazine (Nozinan ®)	2, 5, 25 mg tabs 25 mg/5 ml oral liquid 25 mg/ml injectable	yes	2.5 – 10 mg po/sc qhs	excellent anti-emetic working at several receptors. Is sedating. substitute for other anti-emetics rather than adding in.

This is not meant to be an exhaustive reference but rather a simplified approach to nausea.

Notes

Prochlorperazine (Stemetil ®) is commonly used as an anti-emetic in oncology. It may be given po/IM/IV/pr. It cannot be given sc.
Some persons are sensitive to the extrapyramidal side effects; these persons may feel jittery, complain of restless legs. These same persons may be sensitive to the extrapyramidal side effects of metoclopramide. We tend not to use these two drugs together. Domperidone does not share this profile.

Please note that dimenhydrinate (Gravol ®) has only a minor indication in palliative medicine: when persons complain of motion sickness nausea not relieved by other medications.

In summary:

Always, always, always watch the bowel and ensure a good bowel protocol is in place and is effective.

The commonest protocol for control of nausea in palliative medicine is either a prokinetic (domperidone or metoclopramide) or haloperidol alone or in combination. 75% of prescriptions for nausea in palliative medicine are written for these medications.
(www.palliativedrugs.com)

A common medication profile with an opiate would be as follows:

domperidone 10 mg, 2 tabs (20 mg) qid to prevent/control nausea
haloperidol 0.5 mg, 1 tab (0.5 mg) bid to prevent/control nausea
lactulose 25 – 30 ml od – bid in juice to prevent constipation
bisacodyl 1-2 tabs od – bid to stimulate bowel movement to prevent constipation.

Further reading
www.palliativedrugs.com
www.albertapalliative.net

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#17 SEIZURE TREATMENT AND CONTROL (January '05)

"Pearls" from the Palliative Medicine Team

This will replace "Pearls Sept 2004". This review has been prompted by the discontinuation of Phenobarbital® injectable and accompanies the revamping of the Windsor & Essex County Symptom Response Kits.

Not everyone with brain tumours will seizure. 20-45% of patients with **primary brain tumours** will have presented with seizures and a further 15-30% may develop seizures. While regular use of prophylactic antiepileptics is controversial, these patients and their families need to be prepared for seizure activity.
In the case of **metastatic brain tumours**, 15-20% will present with seizures and only a further 10% may develop seizures. This does mean that 70% of patients with metastatic brain involvement will NOT seizure. So perhaps the first message to these families is that seizures may not occur.

The most important thing is to be prepared; if there is deemed a high risk of seizure we should have educated the family/caregivers what to do and what not to do. Depending on the clinical situation, we might consider having seizure medication ready. **The most important thing to tell the family is that most seizures will stop on their own.**

Treatment "during" a Seizure:

DoPlace the patient in prone position
Protect the patient from hazards
Remove their eyeglasses
Loosen any tight clothing around their neck
Administer acute seizure medicine if it has been recommended

Don't Do not put any object into the mouth
Do not try to hold the tongue
Do not restrain the patient; do not try to still their limbs
Do not give liquids
Do not perform CPR

Treatment "after" a Seizure:

DoTurn the patient on their side to keep their airway clear
Observe the patient until fully awake
Call the physician if there are any of the following:
-there are multiple seizures
-the seizure is lasting > 5 minutes
-the patient is injured or diabetic
Discuss prevention of further seizures with the physician.

Treatment of a Seizure in the home when goals of care are palliative: If clinically indicated, the acute seizure may be treated with one of the following:

Lorazepam (Ativan®) sublingual tablets (SRK)	sublingually or buccally	1-2 mg
Midazolam (Versed®) injectable (SRK)	give IM in deltoid muscle (faster absorption than gluteal). non-ODB	5 mg – 10 mg IM
Diazepam (Valium®) rectal gel or injectable (SRK) per rectum	Diazepam injectable is covered by ODB; the rectal gel is not. Give the injectable diazepam per rectum via butterfly needle with the needle cut away.	28-50 kg: 10 mg 51-75 kg: 15 mg 76-111 kg: 20 mg

The most important maneuver is to prevent a further seizure from occurring. The next steps will depend on the clinical situation, goals of care and prognosis.

If the patient recovers and is able to take medications orally, the physician may wish to investigate drug plasma levels and adjust dosing.

General Guidelines:

- ✓ It is generally preferable to continue to use the same drug that has been previously successful at controlling the seizures but by a different route, when the patient can no longer swallow.
  - ✓ With respect to feeding tube administration: carbamazepine and phenytoin may bind to the plastic tubing. Diluting with 30-60ml of water may reduce this. Carbamazepine and phenytoin may interact with tube feed; stop feed for 1 hr before, 2 hrs after dosing.
- ✓ There may be altered bioavailability/pharmacokinetics when converting from tablets (immediate release or sustained release) to oral solution. The dose and/or frequency may need to be changed.
- ✓ Carbamazepine may be considered the drug of choice for control of seizures in palliative medicine. The dose/response curve is linear. Plasma half-life reduces (from 36 to 24 hrs) as a result of autoinduction of enzymes so measuring plasma levels may be helpful in determining the optimum dose. As the blood level rises slightly after each administration even after reaching steady state, either using controlled release formulation (ODB Limited Use #67) or giving immediate release in smaller doses more often may reduce side effects.
  - ✓ when the patient cannot swallow, carbamazepine can be made in suppositories
  - ✓ some SSRI's increase plasma carbamazepine; paroxetine and sertraline do not
  - ✓ carbamazepine accelerates the metabolism of tricyclic antidepressants
- ✓ Phenytoin has saturable kinetics (a non-linear dose/response curve after reaching a certain level.) This means that increases in doses need to become smaller as the doses get higher as the plasma level may suddenly go from a subtherapeutic to toxic range.
- ✓ In cases where a seizure occurs with a therapeutic drug level, it may be indicated, at least briefly, to increase the dose of corticosteroids rather than changing to another drug, or adding a second drug (with the risk of added toxicity). The benefits of increased corticosteroid should be weighed against the side effects and prognosis. Corticosteroids used with phenytoin may reduce the benefit of each drug!
- ✓ Combination therapy should generally be avoided because there is no evidence of additive therapeutic effect; there is an increased chance of drug interactions and toxicity may be enhanced.

Seizure Prophylaxis when Patient Can No Longer Use Oral Route and There is no Feeding Tube in place.

Previous Drug	Alternate route	ODB	Dose adjustment/notes
Valproic Acid Depakene®	Rectal suppositories (made by compounding pharmacist)	no	No dose adjustment
	Syrup diluted with equal volume of tap water	yes	Try empty rectum first; hold cheeks together for 15 minutes after insertion
Carbamazepine Tegretol®	Rectal suppositories (made by compounding pharmacist)	no	Same or increase dose by 25%
Neurontin Gabapentin®	none	N/A	none
Phenytoin Dilantin®	Switch to either per rectum c) Valproic Acid 15-60 mg/kg/day bid-qid or d) carbamazepine 8-20 mg/kg/day bid-qid OR c) fosphenytoin IM	 no no no	 1.0 mg Fosphenytoin =1.5 mg phenytoin. expensive
Midazolam Versed®	SC infusion	yes	1-3 mg /hr CSCI titrate to effect balancing side/effects

References

Hendrikus et al. *Management of Seizures in Brain Tumor Patients at the End of Life*. Journal of Palliative Medicine **3**(4), 465-475, 2000

Towne, AR et al. *Use of Intramuscular Midazolam for Status Epilepticus*. Journal of Emergency Medicine **17**(2), 3230328, 1999

www.palliativedrugs.com see anticonvulsants

www.RxFiles.ca see antiepileptics

To get in touch with us, please contact Dr Charmaine Jones at cjones@hospicewindsoressex.com

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#18 PAIN MEDICATION CONVERSION CHART (February '05)

"Pearls" from the Palliative Medicine Team

EQUIANALGESIC CONVERSION CHART

suggested BTP morphine oral mg q2h prn	equivalent dose morphine oral mg/24 hrs	duragesic μg/hr	equivalent dose hydromorphone oral mg/24 hr	suggested BTP hydromorphone oral mg q2h prn
10	45-135 (90)	25	(22)11 - 34	2
20	135-225 (180)	50	(45) 34 – 56	4
30	225 – 315 (270)	75	(67.5) 56 – 79	6
40	315 – 404 (360)	100	(90) 79 - 100	8

BTP = breakthrough pain

A 25 μg/hr patch delivers 25 μg/hr transdermally; this is equivalent to taking about 90 mg orally of morphine/day (about 15 mg q4h) or 20 mg hydromorphone/day (3 mg q4h).

The breakthrough pain dose (BTP) must be relative to the baseline delivered by the patch. Too low a dose will not be effective. If a patient is wearing 2 x 100 μg/hr patches, the breakthrough pain dose suggested would be either morphine IR po 80 mg q2h prn or hydromorphone 16 mg po q2h prn.

If a patient has been comfortable on sustained release hydromorphone 60 mg q8h and is now having difficulty swallowing, the calculated equivalent dose would suggest Duragesic® patch 2 x 100 μg/hr (200) q 72 hr could be applied. Depending on the clinical situation, we sometimes lower the equianalgesic application by 1/3 when rotating opiates, this would suggest using Duragesic® 125 μg/hr q 72 hr and leave BTP dose of hydromorphone injectable 10 mg/ml, 5 mg (0.5 ml) sq q1h prn.

po/pr	**SQ/IV is half the oral dose**
morphine 10 mg	morphine 5 mg
codeine 100 mg	not available
hydromorphone 2 mg	hydromorphone 1 mg
1 oxycocet has acetaminophen with oxycodone 5 mg	not available

SQ/IV is half the oral dose
morphine/hydromorphone is 5/1

"SQ" MEDICATIONS

drug	**SQ recommended by manufacturer?**	**SQ used**	**ODB**	**comments**
chlorpromazine (Largactil®)	no	yes	yes	
cimetidine (Tagamet®)	no	yes	no	
dexamethasone (Decadron®)	no	yes	yes	
diazepam (Valium®)	no	NO	no	IM absorption erratic. PR, IV, PO recommended
dimenhydrinate (Gravol®)	no	yes	no	
diphenhydramine (Benadryl®)	no	yes	no	

fentanyl	no	yes	CSCI only	
furosemide (Lasix®)	no	yes	no	10mg/ml dose limited by concentration
haloperidol (Haldol®)	no	yes	yes	
hydromorphone (Dilaudid®)	yes	yes	yes	2 mg/ml, 10 mg/ml
hydroxyzine (Atarax®)	no	yes	no	
hyoscine (Buscopan®)	yes	yes	no	
ketamine (ketalar®)	no	yes	CSCI only	
lidocaine 2% (xylocard® 2%)	no	yes	no	
lorazepam (Ativan®)	no	yes	no	
methadone (Metadol®)	N/A	N/A	N/A	injectable not available in Canada
methotrimeprazine (Nozinan®)	no	yes	yes	
metoclopramide (Maxeran®)	no	yes	CSCI only	
midazolam (Versed®)	no	yes	CSCI only	
morphine	yes	yes	yes	15 mg/ml, 50 mg/ml
naloxone (Narcan®)	yes	yes	no	
octreotide (Sandostatin®)	yes	yes	CSCI or section 8	
ondansetron (Zofran®)	no	yes	no	LU for oral only
oxycodone (Oxy IR®, Supeudol®)	N/A	N/A	N/A	injectable N/A in Canada
Phenobarbital	no	yes	N/A	injectable N/A in Canada Dec 2004
Prochlorperazine (Stemetil®)	no	NO	yes	severe local irritation when used SQ
Ranitidine (Zantac®)	no	yes	yes	
Scopolamine hydrobromide	yes	yes	no	
sufentanyl	no	yes	CSCI only	

CSCI = continuous subcutaneous infusion

NOTE: For inquiries regarding these tables, please contact me at Cjones@hospicewindsoressex.com or 519-974-7100.

Chart modified by C Jones, MD, Jan 2005
Reference for chart: Care Beyond Cure, A Pharmacotherapeutic Guide to Palliative Care compiled by the Pharmacy Specialty Group on Palliative Care, 2000.
ISBN 1-894558-04-9
National Library of Canada

Back to Pain Management Index

#19 ORAL CARE (March '05)

"Pearls" from the Palliative Medicine Team

Every painful mouth is not thrush!

This issue is prepared by Paola Reynolds, BS Pharm, Clinical Pharmacy Manager WRH, and Charmaine Jones, MD, palliative physician. We suggest that this be added after page 7 in your Windsor and Essex County, Care Management Tools.

Stomatitis: diffuse inflammatory, erosive and/or ulcerative condition affecting the mucous membranes of the mouth. Stomatitis is a descriptive term. Inflammation of the mucous membranes can have many causes:

trauma -- poorly fitting dentures
poor dental care and mouth hygiene -- infections
recurring aphthous ulcers
infections -- yeast (thrush, candidiasis)
-- viral (herpes)
-- bacterial
cancer of the mouth membranes
nutritional deficiencies
mucositis -- stomatitis caused by radiotherapy or chemotherapy which can get secondary infections

Every painful mouth is not thrush. As with all other symptoms in palliative medicine, the first step is to answer the question "why does my patient have this symptom now?" and tailor the treatment to the cause. Some circumstances might call for treatment of the cause as well as treating the pain. If there is concern of bacterial infections, (C+S) should be done. Morphine applied locally adheres to pain receptors present in raw areas and acts locally. Morphine is not easily absorbed through the mucous membranes, as it is not very lipophilic; it acts locally. Be sure to use an alcohol free preparation. Any grade >RTOG 2 would require local and possibly systemic opioids for pain relief.

Radiation Therapy Oncology Group (RTOG) Grading of Mucositis

Grade	
1	some redness, mild pain
2	patchy mucositis, inflammatory serosanguinous discharge, moderate pain
3	confluent areas of mucositis, fibrinous, severe pain
4	ulceration, hemorrhage, necrosis, severe pain
5	severe causing death

medication type	medication name	ODB	notes
sialogogue encourage saliva			
	Sialor® anetholtrithione 25 mg tid po	no	
	Salogen® pilocarpine 5-10 mg tid po	no	
	pilocarpine 4% eyedrops 3 drops (5 mg) tid into mouth	yes	15 ml bottle lasts about 3 wks
	pineapple chunks		contains enzyme ananase, which will help clean the coated tongue
antifungal			
	Nystatin® mycostatin 200,000 u q2h first day, then qid po	yes	it is important to take dentures out when using the mycostatin. Swish in mouth, hold, then swallow.
	Diflucan® fluconazole 50, 100 mg tabs 10 mg/ml oral liquid	LU 202, 203 LU 274	can cause hepatotoxicity
antiviral			
	Famvir® famciclovir Valtrex® valacyclovir Zovirax® acyclovir	LU 147 LU 159 LU 95, LU 97	#97 does not have limitations of age nor time elapsed from onset.
topical anesthetics			
	Tantum® benzydamine hydrochloride 0.15%	no	rinse and spit generally, this class does not provide lasting pain relief
	Anbesol® benzocaine	no	extra strength gel 20% gel 6.4% grape gel 7.5%
	xylocaine® viscous lidocaine 2%	no	

medication type	medication name	ODB	notes
topical ASA			
	Teejel® choline salicylate, topical gel	no	
topical antihistamine			
	benadryl® diphenhydramine 12.5 mg/5ml kaopectate equal parts	no	kaopectate helps it bind to the mouth. diphenhydramine has some local analgesic properties
antiseptic mouthwashes			
	peridex® chlorhexidine 0.12%	no	
antibiotic mouthwash			
	tetracycline: 250mg capsule mixed in water, hold in mouth and spit	yes	
steroids			
effervescent tabs	Betnesol® betamethasone 0.5 mg	no	
ointment	kenalog® in orabase triamcinolone 0.1%	no	apply to discrete ulcers
	oracort® triamcinolone 0.1%	no	
nasal sprays	nasacort® AQ triamcinolone 55 μg	no	Spray into mouth when more coverage required. There is some systemic absorption.
	rhinocort® aqua budesonide 64, 100μg	no	
cytoprotectives			
stimulate mucous production	Bioral® gel carbenoxolone	no	
adheres to raw surface	Orabase® carboxymethocellulos		
	Sulcrate® sucralfate	yes	NOT a benefit in mucositis

medication type	medication name	ODB	notes
opiate analgesic			
local use	morphine gel 0.1%	no	Raw areas have more opiate receptors that bind morphine. Morphine is not very lipid soluble. Studies show that the effect is good, and is local. If held and spit, there is no systemic absorption[Cerchietti].
local use	morphitec-5® alcohol free, sucrose free 2.5 – 3 ml (10-15 mg)hold in mouth 2 min then spit.	yes	
mixtures			
"magic mouthwash" "NCI cocktail"	lidocaine viscous 2% diphenydramine elixir 12.5 mg/ml maalox®	no	equal parts 30 ml q2h prn swish, hold, and spit or swallow

“koolstat”	koolaid lidocaine viscous 2% mycostatin	no	equal parts 30 ml q4h swish, hold, and spit or swallow
“Miles solution”	tetracycline mycostatin lidocaine viscous 2% hydrocortisone benadryl	no	2 million units mycostatin=20 ml 2 gm tetracycline (capsules) 150 ml 2% lidocaine viscous 100 mg solu-cortef 50 mg benadryl elixir 15-30 ml q4-6h swish, hold and swallow

References

www.palliativedrugs.com
see RAG panel, Lothian Palliative Care Guidelines for Mouthcare
Drugs for oral inflammation and ulceration

www.RxFiles.ca
The RxFiles: Drug Comparison Chart

Effect of Topical Morphine for mucositis-Associated Pain following Concomitant Chemoradiotherapy for Head and Neck Carcinoma
Cerchietti et al
Cancer 95(10), 2230-2236, 2002

Should you wish to give feedback or get added to our email list, please contact cjones@hospicewindsoressex.com.

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#20 DYSPNEA: an uncomfortable awareness of breathing (April ’05)

“Pearls” from the Palliative Medicine Team

This issue of Pearls is prepared in partnership with Dr Y Alam, MD, MRCP(UK), FRCS, Medical Oncologist at Windsor Regional Cancer Centre. If you would like more information or to give feedback, please contact Dr Charmaine Jones, Medical Lead, Regional Palliative Medicine Program. cjones@hospicewindsoressex.com

Dyspnea is a subjective complaint. It is not something we can objectively measure. There is NO correlation between measured RR, tachypnea (breathing quickly) or dyspnea. There is NO correlation between PaO_2 (measured arterial gases), SaO_2 (oxygen saturation by oximetry) and dyspnea. Up to 50% of cancer patients will have a complaint of shortness of breath at some point of their illness.

The first step in assessing someone complaining of “being short of breath” is to answer “why does this patient have this symptom now?” Then, depending on the patient’s illness trajectory and PPS, treatment options can be discussed. The following table reviews some of the common causes of dyspnea we see in palliative medicine with oncology patients. Treatment aimed at the cause can have remarkable results.

Common causes of Dyspnea in palliative medicine related to oncology[5]		
modifiable	non-cancer related	congestive heart failure
		arrhythmias
		chronic obstructive lung diseases
		myocardial infarction
	potentially cancer related	pulmonary embolism
		anxiety, psychological distress
		anemia
		pleural effusion
		pneumonia
		superior vena cava syndrome
		pericardial effusion
		ascites
non-modifiable		lymphangitic spread within the lung
		enlarging malignancy (primary or met in lung)
		fibrosis from chemo/radiotherapy
		atelectesis
		enlarging intra-abdominal tumour
		muscle weakness

5. Chin K Chung, in HOT SPOT, newsletter of the Rapid Response Radiotherapy Program of Sunnybrook Regional Cancer Centre, August 2003. Modified by C Jones.

There are many non-pharmacological nursing options to employ to help dyspnea.
(Care Management Tools (CMT)pp19-20). These Pearls might be inserted after pp 20.
This table reviews medications that are helpful for the symptom of feeling short of breath and associated symptoms.

Pharmacological Treatments					
medications	**indications**	**dosage**	**ODB coverage**	**in Symptom Response Kit?**	**adverse effects**
opioid- systemic(i, ii)	dyspnea air hunger	opioid naïve: start as you would for pain control - low dose, short acting. For a patient already on an opioid for pain control, increase the basal dose by 30%. Allow breakthrough dosing for pain or dyspnea.	see opioid listing CMT pp27-8	when order SRK choose opioid to be included	constipation, nausea
codeine Tylenol®#3,30 mg syrup 25 mg/5 ml	cough	25 - 60 mg q4h prn	yes	no	constipation, nausea
hydrocodone 1 mg/ml	cough	10 mg q4h prn	yes	no	constipation
dextromethorphan	cough	30 mg q4h prn		no	
paroxetine (iii)	dry cough	10 mg od	yes	no	
scopolamine	secretion control	0.6 mg sq q4h prn	no	yes	can cross the BBB and cause delirium
buscopan	secretion control	10 mg sq q4h prn	no	no	does not cross BBB
atropine 1% eyedrops	secretion control	2-3 drops into cheek/undertongue q4h prn	yes	no	does cross BBB
nebulized saline	sticky secretions	2-3 ml by compressor q4h prn	no	no	safe
nebulized bronchodilators	wheezing		LU 258	no	
anxiolytics	anxiety		yes	lorazepam SL 1 mg	may cause sedation
oxygen*	dyspnea	treat the symptom; not the PO_2	Palliative coverage 3 months or PaO_2 <55 SaO_2 <88%	no	

Nebulized opioids: there are no RCT to support the use of nebulized opioids. Their use remains controversial and are not routinely recommended(iv).

At the end of life, family members can misinterpret changing breathing patterns and wet secretions as dyspnea. Education is important.

*Oxygen may help dyspnea without correcting hypoxemia. Air moving across the trigeminal nerve (V2) may have a central inhibitory effect on dyspnea[4]. BACK TO RESPIRATORY INDEX

[i]Jennings A-L, et al. A Systematic Review of the Use of Opioids in the Management of Dyspnea. Thorax 57,939-944, 2002
[ii]LeGrand, S, et al. Opioids, Respiratory Function and Dyspnea. Am J of Hospice and Palliative Care 20(1),57-71, 2003
[iii]Zylicz,Z et al. What Has Dry Cough in Common with Pruritis? Treatment of Dry Cough with Paroxetine. J of Pain and Symptom Management 27(2)180-184, 2004
[iv]Bruera, E in UpToDate, Rose BD (Ed), UpToDate, Wellesley, MA, 2005.

#21 SPINAL CORD COMPRESSION (May 2005)

"Pearls" from the Palliative Medicine Team

This "Pearl" is prepared in partnership with Dr K. Schneider, FRCPC, Program Lead for Radiation Oncology, and WRCC Interim Chief, Department of Oncology, Windsor Regional Hospital and Windsor Regional Cancer Centre. Please direct any feedback/comments to Dr Charmaine Jones, Program lead, Regional Palliative Medicine Program, Windsor and Essex County. cjones@hospicewindsoressex.com.

Malignant Spinal Cord Compression, What is it?

Nerve damage from a malignant growth pressing on the spinal cord/nerve roots. This is usually from extension of a vertebral (bone) metastatic lesion. The pressure will damage the nerve's blood supply (ischemia) and the nerve itself. The spinal cord ends at L1. Below this, the nerves appear like a horse's tail, or *cauda equina*. If the mass growing into the canal is below L1, the cord compression may be called *cauda equina syndrome.*

Who is at risk?

Persons with the following cancers typically account for >60% of cases.

- Cancer of the breast
- Cancer of the lung
- Cancer of the prostate

It is also seen with lymphomas, melanomas, renal cell carcinomas, thyroid cancers, sarcomas and multiple myelomas: any malignancy with bone metastatic potential.

Common Error:
The patient may try to "explain" his/her back pain in a way to decrease his/her anxiety: "I must have pulled my back when I…". If the patient is known to have one of these underlying cancers, don't buy it!! Missing this diagnosis can make a huge difference in their quality of life. Untreated, this will develop to paraplegia or quadriplegia depending on the level of involvement.

Once there is nerve damage, function is unlikely to improve. Pain is usually the first symptom. **Remember "Why does this patient have this pain now?"** The pain often has a radicular component to it: the pain goes along the sensory path of the nerve. The following are examples:

- Cervical – down one arm or across between the shoulder blades
- Thoracic – wraps around the chest "like a band" one side or both sides
- Lumbar – down one leg (sciatica)

If the lesion is central, the patient may not urinate properly – ask if they are having trouble starting their stream. However, for most lesions, loss of control of urine or bowel functions is a late development.

Identification:
Watch for the patient with cancer complaining of escalating back pain – often with a radicular component. Coughing, laughing, sneezing, or movement aggravates the pain. As the compression advances, the patient will develop neurological signs and symptoms – sensory loss in a dermatome or muscular weaknesses**.** A patient developing MSCC usually has severe back pain. **Note: weakness in a limb from a brain met is painless: weakness from cord compression has severe pain.**

Clinical Exam:
A comprehensive neurological exam is important. Some presentations occur with numerous signs and more than one level may be involved. Remember to examine the patient's back. Start at the neck and push firmly on each vertebra. Usually the vertebra involved is very tender to deep touch.

What to do:
You need to confer with the patient's medical team. Call the patient's oncology/palliative medicine team. Discussion as to the most appropriate investigations can expedite the patient's care. Patients should be aggressively screened and educated about MSCC[6] Each decision depends on the clinical situation, PPS, expected prognosis and informed consent between the patient, physician and health care team.

What needs to be done:

Imaging: x-rays, CTT and/or MRI. Bone scans may demonstrate bone metastatic lesions. If the bone is almost totally destroyed, a bone scan may not show much – the plain Xray help discern that. Xrays will rule out any destructive bony lesions causing potential spinal instability that could benefit from an orthopaedic or neurosurgical consultation. Bone scans or Xrays do NOT rule out compression on the thecal sac. Best practice indicates that if possible imaging of the full spinal cord is done; the symptoms may suggest involvement at one level, experience has shown that multiple levels may be involved[7]. An MRI is the gold standard to investigate a possible MSCC; CTT scan imaging can be appropriate in some scenarios if MRI scanning is unavailable on an urgent basis.

Symptoms must be controlled even during investigation; indeed, to facilitate the investigations. The danger here though is that analgesics may be titrated without the signs/symptoms being fully interpreted. If we remember to answer "why does this patient have this pain now" we will pick up early signs/symptoms of cord impingement. Early diagnosis may protect cord function.

If there is evidence of cord impingement, high dose steroids and radiotherapy (if radiosensitive tumour) or neurosurgery need to be considered.

The key message is to have a high index of suspicion in patients with cancer presenting with back pain. We want to screen and identify patients before irreparable damage is done. I believe that the number of completed undiagnosed cord compressions in a community is an indicator of a shortfall in quality care.

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[6] Loblaw et al. "Emergency Treatment of Malignant Extradural Spinal Cord Compression: An Evidence-Based Guideline. J of Clin Onc 16(4);1613-1624,1998
[7] Heldmann U et al. "Frequency of unexpected multifocal metastasis in patients with acute spinal cord compression. Evaluation by low-field MR imaging in cancer patients. Acta Radiol 38(3):372-375,1997

#22 DELIRIUM (June '05)

"Pearls" from the Palliative Medicine Team

This issue is prepared conjointly with Dr William Breitbart, Chief, Dept Psychiatry, Memorial Sloan-Kettering Cancer Centre, NY.
Any feedback, please contact cjones@hospicewindsoressex.com.

Upon recovery, patients recall their delirium experience and the experience is distressful for

Delirium Hurts
We must recognize it
We must treat it appropriately

88% of patients experience delirium prior to death

Delirium in Palliative Medicine

Assess Cognition regularly using a validated tool;
≥7/30 score on the MDAS (attached) is sensitive (98%) and specific (96%) for delirium (Lawlor)

acute onset and fluctuating course
insomnia, sleep/wake disturbances
reduced sensorium
attention deficit
cognitive disturbance
perceptual disturbance

hyperactive
or
hypoactive
or
mixed

agitation, myoclonus, hyperalgesia: consider opioid toxicity

- may be missed as the patient is not a nursing challenge
- may be misdiagnosed as depression
- is equally as distressing to patient and family as hyperactive delirium

Reversible?
- if PPS/goals of care allow, explore causes average 3 contributing factors
- treat the delirium

Irreversible,
Terminal Event
End of Life delirium

Pharmacological Treatment of Delirium
- neuroleptics are the drugs of choice
  - haloperidol po, IM, IV, sc
  - methotrimeprazine po, IM, sc
- benzodiazepines do NOT treat delirium
  They may be added to help control behaviour but they do not change the disordered process and will not help the subjective distress suffered by the patient

Lawlor et al. "Clinical Utility, Factor Analysis, and Further Validation of the MDAS in Patients with Advanced Cancer. Assessing Delirium in Advanced Cancer". CANCER 88(12),2859-2867,2000.
Lawlor et al. "Delirium at the End of Life: Critical Issues in Clinical Practice and Research." JAMA 284(19), 2427-2429, 2000
Breitbart et al. "The Delirium Experience: Delirium Recall and Delirium-Related Distress in Hospitalized Patients with Cancer, Their Spouses/Caregivers, and Their Nurses." Psychosomatics 43(3),2002
Breitbart et al. "The Memorial Delirium Assessment Scale". J Pain Symp Management 13(3),128-137,1997

MEMORIAL DELIRIUM ASSESSMENT SCALE (MDAS)

Memorial Sloan Kettering Cancer Institute. Used with Permission – Dr. W. Breitbart, et al

INSTRUCTIONS: Rate the severity of the following symptoms of delirium based on current interaction with subject or assessment of his/her behavior or experience over past several hours (as indicated in each item).

ITEM 1 – REDUCED LEVEL OF CONSCIOUSNESS (AWARENESS): Rate the patient's current awareness of interaction with the environment (interviewer, other people/objects in the room: for example, ask patients to describe their surroundings).

- θ 0: none (patient spontaneously fully aware of environment and interacts appropriately)
- θ 1: mild (patient is unaware of some elements in the environment, or not spontaneously interacting appropriately with the interviewer; becomes fully aware and appropriately interactive when prodded strongly; interview is prolonged but not seriously disrupted)
- θ 2: moderate (patient is unaware of some or all elements in the environment, or not spontaneously interacting with the interview; becomes incompletely aware and inappropriately interactive when prodded strongly; interview is prolonged but not seriously disrupted)
- θ 3: severe (patient is unaware of all elements in the environment with no spontaneous interaction or awareness of the interviewer, so that the interview is difficult-to-impossible even with maximal prodding)

ITEM 2 – DISORIENTATION: Rate current state by asking the following 10 orientation items: date, month, day, year, season, floor, name of hospital, city state and country.

- θ 0: none (patient knows 9-10 items)
- θ 1: mild (patient knows 7-8 items)
- θ 2: moderate (patient knows 5-6 items)
- θ 3: severe (patient knows no more than 1 item)

ITEM 3 – SHORT-TERM MEMORY IMPAIRMENT: Rate current state by using repetition and delayed recall of 3 words (patient must immediately repeat and recall words 5 min later after an intervening task. Use alternate sets of 3 words for successive evaluations (for example, apple, table, tomorrow; sky, cigar, justice)).

- θ 0: none (all 3 words repeated and recalled)
- θ 1: mild (all 3 repeated, patient fails to recall 1)
- θ 2: moderate (all 3 repeated, patient fails to recall 2/3)
- θ 3: severe (patient fails to repeat 1 or more words)

ITEM 4 – IMPAIRED DIGIT SPAN: Rate current performance by asking subjects to repeat first 3, 4, then 5 digits forward and then 3, then 4 backwards; continue to the next step only if patient succeeds at the previous one.

θ 0: none(patient can do at least 5 numbers forward and 4 backward)
θ 1: mild(patient can do at least 5 number forward, 3 backward)
θ 2: moderate(patient can do 4-5 numbers forward, cannot do 3 backward)
θ 3: severe(patient can do no more than 3 numbers forward)

ITEM 5 – REDUCED ABILITY TO MAINTAIN AND SHIFT ATTENTION: As indicated during the interview by questions needing to be rephrased and/or repeated because patient's attention wanders, patient loses track, patient is distracted by outside stimuli or over-absorbed in a task.

θ 0: none(none of the above; patient maintains and shifts attention normally)
θ 1: mild (above attentional problems occur once or twice without prolonging the interview)
θ 2: moderate (above attentional problems occur often, prolonging the interview without seriously disrupting it)
θ 3: severe(above attentional problems occur constantly, disrupting and making the interview difficult-to-impossible)

ITEM 6 – DISORGANIZED THINKING: As indicated during the interview by rambling, irrelevant, or incoherent speech, or by tangential, circumstantial, or faulty reasoning. Ask patient a somewhat complex question (for example, "describe your current medical condition").

θ 0: none(patient's speech is coherent and goal-directed)
θ 1: mild (patient's speech is slightly difficult to follow; responses to questions are slightly off target but not so much as to prolong the interview)
θ 2: moderate (disorganized thoughts or speech are clearly present, such that interview is prolonged but not disrupted)
θ 3: severe(examination is very difficult or impossible due to disorganized thinking or speech)

ITEM 7 – PERCEPTUAL DISTURBANCE: Misperceptions, illusions, hallucinations, inferred from inappropriate behavior during the interview or admitted by subject, as well as those elicited from nurse/family/chart accounts of the past several hours or of the time since last examination:

θ 0: none(no misperceptions, illusions, or hallucinations)
θ 1: mild(misperceptions or illusions related to sleep, fleeting hallucinations on 1-2 occasions without inappropriate behavior)
θ 2: moderate (hallucinations or frequent illusions on several occasions with minimal inappropriate behavior that does not disrupt the interview)
θ 3: severe (frequent or intense illusions or hallucinations with persistent inappropriate behavior that disrupts the interview or interferes with medical care)

ITEM 8 – DELUSIONS: Rate delusions inferred from inappropriate behavior during the interview or admitted by the patient, as well as delusions elicited from nurse/family/chart accounts of the past several hours or of the time since the previous examination.

θ 0: none (no evidence of misinterpretations or delusions)

θ 1: mild (misinterpretations or suspiciousness without clear delusional ideas or inappropriate behavior)

θ 2: moderate (delusions admitted by the patient or evidenced by his/her behavior that do not or only marginally disrupt the interview or interfere with medical care)

θ 3: severe(persistent and/or intense delusions resulting in appropriate behavior, disrupting the interview or seriously interfering with medical care)

ITEM 9 – DECREASED OR INCREASED PSYCHOMOTOR ACTIVITY: Rate activity over past several hours as well as activity during interview, by circling (a) hypoactive, (b) hyperactive, or (c) elements of both present.

θ 0: none(normal psychomotor activity)

θ abc 1: mild (hypoactivity is barely noticeable, expressed as slightly slowing of movement. Hyperactivity is barely noticeable or appears as simple restlessness)

θ abc 2: moderate (hypoactivity is undeniable, with marked reduction in the number of movements or marked slowness of movement; subject rarely spontaneously moves or speaks. Hyperactivity is undeniable, subject moves almost constantly; in both cases, exam is prolonged as a consequence)

θ abc 3: severe(hypoactivity is severe; patient does not move or speak without prodding or is catatonic. Hyperactivity is severe; patient is constantly moving, overreacts to stimuli, requires surveillance and/or restraint; getting through the exam is difficult or impossible)

ITEM 10 – SLEEP-WAKE CYCLE DISTURBANCE (DISORDER OF AROUSAL): Rate patient's ability to either sleep or stay awake at the appropriate times. Utilize direct observation during the interview, as well as reports from nurses, family, patient, or charts describing sleep-wake cycle disturbance over the past several hours or since last examination. Use observations of the previous night for morning evaluations only.

θ 0: none (at night, sleeps well; during the day, has no trouble staying awake)

θ 1: mild (mild deviation from appropriate sleepfulness and wakefulness states: at night, difficult falling asleep or transient night awakenings, needs medication to sleep well; during the day, reports periods of drowsiness or, during the interview, is drowsy but can easily fully awaken him/herself)

θ 2: moderate (moderate deviations from appropriate sleepfulness and wakefulness states; at night, repeated and prolonged night awakening; during the day, reports of frequent and prolonged napping or, during the interview, can only be roused to complete wakefulness by strong stimuli)

θ 3: severe (severe deviations from appropriate sleepfulness and wakefulness states; at night, sleeplessness; during the day, patient spends most of the time sleeping or, during the interview, can not be roused to full wakefulness by any stimuli)

Score _____

30

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#23 ADJUVANT MEDICATIONS/PAIN (July '05)

"Pearls" from the Palliative Medicine Team

Opioids continue to be the mainstay of pain management for patients with malignant pain. As long as the pain responds to increases in opioid (opioid responsive pain), the dose may be titrated. However, there are some types of pain, which are more or less opioid resistant. In these situations, other medications are added (adjuvant). The site of action along the pain pathway is different for each of the adjuvant medication categories. They are therefore often added to each other for maximum effect.

Indication (Symptom)	Medication Type	Medication Generic and a Common Trade®	ODB Coverage?	Starting Dose and Range	Side-effects and Notes
mixed pain: often tumour growth in a small space Used to ↓ swelling: eg lymphatic obstruction, cerebral edema, MSCC*. liver capsule pain	steroids	dexamethasone (Decadron®)	yes	2-8 mg po/sc od - bid	-no need to give more often than od or bid. -may be given sc -many s/e if used over weeks -consider adding PPI (Pariet®) for GI protection -no need to taper if used for <2 weeks -small % develop psychosis/delirium -watch sodium retention (peripheral edema)
bowel obstruction					short trial warranted, may help reverse obstruction by ↓ edema in gut wall
	anti-spasm	hyoscine butylbromide Buscopan®	no	10-20 mg po/sc qid – q4h	anti-cholinergic s/e
muscle spasms	skeletal muscle relaxant	baclofen Lioresal®	yes	5 mg tid – 20 mg qid po	↓ dose in renal dysfunction

* MSCC= malignant spinal cord compression

Indication (Symptom)	Medication Type	Medication Generic and a Common Trade®	ODB Coverage?	Starting Dose and Range	Side-effects and Notes
bone pain	NSAID's	many	yes		- potential complications – renal compromise, GI bleeding(?add PPI) sodium retention (potential to aggravate CHF)
	biphos-phonates	clodronate (Bonefos®) pamidronate (Aredia®) zoledronic acid (Zometa®)	LU 358 breast ca LU 359 MM some-CCO some-CCO	800 mg bid po or sc infusion[ii] 90 mg IV monthly 4 mg IV monthly	GI upset -↓osteoclastic activity. - may help pain over 2-3 months, not immediately. May slow development of bony complications/pain. -reduce dose for renal compromise.
neuropathic pain	tricyclic anti depressants	desipramine (Norpramin®)	yes	10-25 mg qhs po titrated slowly to 150 mg unless limited by side/effects	May take 2 weeks to have best effect. Anticholinergic side-effects possible – dry mouth, urinary retention
		amitriptyline (Elavil®)	yes		
	anticonvulsants	carbamazepine (Tegretal®)	yes	100 mg qhs po titrated to 200 mg qid or q4h. max 1200mg/day	-to avoid s/e with peaks, suggest lower doses more frequently. -the controlled release may give better symptom control w/o side-effects (nausea, dizziness)
		carbamazepine-CR (Tegretal-CR®)	LU 67	same dose as titrated to with the short-acting, given bid po	
		gabapentin (Neurontin®)	ICR[iii]	100 mg qhs po titrated to 1200 mg tid. commonly suggested titration: 300 mg day 1 300 mg bid day 2 300 mg tid day 3	watch dosing in renal compromise
		topiramate (Topamax®)	ICR	25 mg bid to max 400 mg/day	oligohydrosis (rare)
	opioid	methadone (Metadol®)	no	various	requires special provincial exemption to Rx methadone for pain control

[ii] Roemer-Becuwe C, Vigano A, Romano F, Neumann C, Hanson J, Quan HK, Walker P. Safety of subcutaneous clodronate and efficacy in hypercalcemia of malignancy: a novel route of administration.
J Pain Symptom Manage. 2003 Sep;26(3):843-8.
Walker P, Watanabe S, Lawlor P, Hanson J, Pereira J, Bruera E. Subcutaneous clodronate: A study evaluating efficacy in hypercalcemia of malignancy and local toxicity.
Ann Oncol 1997,8(9):915-916

[iii] ICR = Individual Clinical Review (previously known as "Section 8")

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#24 PRURITIS (August '05)

"Pearls" from the Palliative Medicine Team

Itch in Palliative Medicine

Itch (Pruritis): an unpleasant skin sensation which provokes the desire to scratch

The approach depends on the cause: Why does my patient have this itch now?
eg, if due to jaundice from biliary outlet obstruction, consider stenting for comfort.
In palliative medicine, the patient's robustness and prognosis might preclude some treatments (stenting, ultraviolet b, cholestyramine, dialysis).

General Management

Remove possible causative drugs	
Eliminate common allergens	perfumed soaps, topical neomycin, drying agents (alcohol based)
use emollient creams/baths	pruritis is often seen in conjunction with dry skin
stay cool	light clothes, tepid showers, avoid po alcohol and spicey foods

Creams

menthol/phenol 1-2%	cooling effect	ODB no
capsaicin 0.025%, 0.075% for localized itch	pruritis is mediated by similar mechanism as pain. capsaicin depletes substance P and will decrease both pain and itch[iv]	ODB no

Oral Medications
Antihistamines (sedating and non-sedating) for allergic (histamine based) pruritis rarely have benefit in this population.
No broad-spectrum anti-pruritic drug exists.

generic	common	receptor	notes	ODB?
antihistamines	Benadryl® Atarax®	H_1	useful ONLY as sedatives	OTC yes
cimetidine	Tagamet®	H_2	watch drug interactions (cytochrome P450)	yes
doxepin	Sinequan®	H_1, H_2	10-75 mg hs	yes
ondansetron	Zofran®	$5HT_3$	8 mg od	no, $$
***paroxetine**[v]	Paxil®	SSRI	5-20 mg hs, s/e nausea	yes
mirtazepine	Remeron®	H_1, $5H_2$,$5H_3$	7.5 – 30 mg hs	yes
	*The effect of paroxetine on pruritis may wear off over weeks, mirtazepine is often added			

Possible first choices are bolded.

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[iv] Itch: scratching more than the surface. Twycross et al. QJMed 96,7-26,2003
Understanding Pruritus in Systemic Disease. Krajnik et al. J P Symp M 21(2),151-167,2001.
[v] Paroxetine for Pruritus in Advanced Cancer. Zylicz et al. J of P Symp M 16(2),121-124,1998

#25 VITAMIN K (September '05)

"Pearls" from the Palliative Medicine Team

Management of Vitamin K Antagonists (VKA)

This Pearl is presented in partnership with P Reynolds, RPh, Clinical Pharmacy Manager, Windsor Regional Hospital and Dr M McFarlane, FRCP(C).

Patients with cancer have an increased tendency to thrombo-embolic events. Patients who have had a DVT (deep vein thrombosis) or PE (pulmonary embolism) may be maintained on warfarin, a vitamin K antagonist. The therapy is monitored by measuring the prothrombin time (PT) and the result is given as a ratio against a control called the INR. The goal is an INR between 2-3.[vi] Patients with recurrent thrombo-embolic events with INR 2-3, target the INR higher, 2.5-3.5.

If the INR is above the therapeutic range, vitamin K (phytonadione) might be given. If vitamin K is used, it should be administered in a dose that will lower the INR into a safe but not subtherapeutic range without causing resistance once warfarin is reinstated and without exposing the patient to the risk of anaphylaxis. The most current guidelines recommend vitamin K is given by mouth, not SQ nor IM. In an urgent situation, it is given by slow IV infusion. The response to SQ vitamin K is less predictable compared to oral and is sometimes delayed. IM vitamin K is not recommended.

condition	description
INR < 2	Increase the weekly cumulative dose of warfarin by 10-20% with more frequent monitoring until INR stable between 2-3.
INR 3-5; no significant bleeding	Lower dose or omit dose, monitor more frequently, and resume at a lower dose when INR 2-3.
INR 5-9; no significant bleeding	Omit next 1-2 doses, monitor more frequently and resume at a lower dose when INR 2-3. Alternatively, omit dose and give vitamin K (1-2.5 mg) orally, particularly if increased risk of bleeding. If more rapid reversal is required because the patient requires urgent surgery, vitamin K (2-4 mg po) can be given with the expectation that a reduction of the INR will occur in 24h.
INR >9; no significant bleeding	Hold warfarin and give higher dose of vitamin K (5-10 mg po) with the expectation that the INR will be reduced substantially in 24-48h. Monitor more frequently and use additional vitamin K if necessary. Resume therapy at lower dose when INR therapeutic (2-3).
serious bleeding at any elevation of INR	Hold warfarin therapy and give vitamin K (10 mg by slow IV infusion), supplemented with fresh plasma or prothrombin complex concentrate, depending on the urgency of the situation. Vitamin K can be repeated every 12h.
life-threatening bleeding	Hold warfarin therapy and give prothrombin complex concentrate supplemented with vitamin K (10 mg by slow IV infusion)

Vitamin K comes as the injectable ampoule, not covered by ODB. The vitamin K is drawn up and given orally. It is important to give only the dose of vitamin K that would be needed to bring the INR into therapeutic range. Too large a dose can lead to warfarin resistance when the warfarin is restarted. The effects of the Vit K can last for up to 1 week[vii]

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[vi] Ansell et al. The Pharmacology and Management of the Vitamin K Antagonists. The Seventh ACCP Conference on Antithrombotic and Thrombolytic Therapy. Chest 126(3), 2004 Supplement; 204S-233S

[vii] ISMP bulletin, 10(9) May 2005

#26 TOPICAL OPIOIDS (October '05)
"Pearls" from the Palliative Medicine Team

Topical Opioids: a useful adjunct for painful decubitus ulcers.

Pain fibres (nocioceptive fibres) which take pain signals to the central nervous system (afferent fibres) have opioid receptors which become active when there is local inflammation[viii]. This property allows analgesics to be locally applied on/in raw wounds, such as decubitus ulcers, severe mucositis, rectal ulcers.

Morphine is NOT very lipid soluble and therefore is not well absorbed through intact skin. However, when placed in the raw wound, it binds to the activated pain receptors. .

Lipid Solubility	
morphine	0.0000001
hydromorphone	0.0001
fentanyl	19.6
methadone	44.6

Morphine thus applied acts locally; it is NOT dependent on systemic absorption for its analgesic effect[ix]. Only in very large ulcers does some systemic absorption occur and it appears to be very minimal. Locally applied morphine can enhance comfort without inducing potential systemic side-effects (nausea, constipation, delirium).

Morphine may be prepared as morphine 1 mg/ml (0.1%) in Intrasite gel®. This is not covered by ODB. 5-10 ml is applied into the raw wound (remember, morphine is not well absorbed through intact skin) daily or twice daily. It is kept in place with a non-absorbable pad or dressing or gauze coated with petroleum jelly.

Morphine 1.25 mg/ml (0.125%) in intrasite gel® has been shown to be stable for at least 28 days, irrespective of storage temperature or light[x].

In some situations, as oral mucositis, vaginal inflammation secondary to fistula formation, or rectal ulceration, a higher dose of morphine 3 mg/ml – 5 mg/ml (0.3 – 0.5%) may be required to enhance patient comfort.

A suggested order for two weeks for 1 ulcer requiring 10 ml might read:
"morphine 1 mg/ml in intrasite gel. Apply 10 ml into wound BID, cover with opsite®". Mitte 300 mg of morphine1 mg/ml in intrasite gel®.

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[viii] www.palliativedrugs.com: formulary, morphine
[ix] Ribeiro, MDC et al. J of Pain and Symptom Management, 27(5),434-439, 2004
[x] Zeppetella, G et al. Palliative Medicine, 19,131-136, 2005

#27 ETHICAL DECISION MAKING (November '05)
"Pearls" from the Palliative Medicine Team

Every decision is embedded in rich context. There are times when the right course of action may be difficult to discern; when there is not only one right choice, or when there is disagreement. There are legal requirements and ethical principles to follow. This is a framework which might be helpful to have a robust discussion to lead to a decision of care.

5) **right persons** to be involved; consider who the patient would include, consider the multidisciplinary team members. Is there a need for a special mediator? Would the family wish to involve their spiritual leader?
6) **right place** a room that encourages open conversation, minimal interruptions, enough chairs to everyone
7) **right time** the discussion must be timely with respect to the medical condition, and enough time must be given to the conversation. The patient/family may not come to a decision at the first meeting. Coming to decisions is a process not an event.
8) **right process**. Below is a framework to give focus to the discussion[xi]

Medical Indications	Patient Preference
Quality of Life	Contextual Features

Medical Indication

Review the diagnosis, prognosis, current situation, treatment options. Review the goals of care. What will the proposed treatment do; what will it not do. What are the probabilities. What are the risks, burdens, potential benefits. e.g. if the goal of care has been comfort care at end of life in the home, will this treatment enhance meeting this goal?

Patient Preference

This is the ethical principle of autonomy embedded in our legal framework. Informed consent, capability, competency and the substitute decision maker (SDM) are all elements of our legal system. The role of the SDM is to use all available information, consider the patient's goals and values to come to a decision that the patient would have wanted.

Quality of Life

Only the patient can make a judgement on their quality of life; physicians notably judge patient's quality of life lower than the patient does. Quality of life is subjective. We need to be aware of our prejudices (-isms: ageism, classism, sexism). Some patients view IV, SQ injections as a detriment to their quality of life, a burden too large to pay for benefits; others accept them readily.

Contextual Features

Every decision is made in a context – social, psychological, physical, ethical, religious, financial. While discussing treatment options, this might include such things as the necessity of transfer to hospital for the first dose of antibiotic IV, or admission to institute TPN. This might include the lack of resources to meet a goal of staying at home.

[xi] Clinical Ethics, Jonsen, Siegler, Windslade
ISBN 0-07-105392-1

#29 COMMUNICATING BAD NEWS (January '06)

"Pearls" from the Palliative Medicine Team

Robert Buckman has outlined a six step approach to help us improve our technique:

1) getting started – setting the stage
Try to find a space where there is privacy, enough seats for everyone that the patient wants to be present, including yourself. Turn off your pager/phone or put it on vibrate. Try very hard to have a support person present for the patient. Remember that while you will be sharing some news, you are trying to set up a dialogue, not deliver a monologue.

2) find out how much the patient knows/suspects
Ask "what have you been told about your health/illness?" "What is your understanding of what is wrong?" This gives you an understanding of not only what the patient knows and understands, but also their level of medical sophistication.

3) find out how much the patient wants to know
The patient has a right to know and also a right not to know at any point in time. Some patients want to know every medical detail; others will want only the bigger picture. Persons have different styles of learning – some will want websites, some will want printed material. If one person in the group asks for details on prognosis, check with everyone in the group before answering; "your brother has asked how long I think you might have to live. Is this something you would like me to try to answer?"

4) sharing the information
Be prepared. Know what information you want to share. Use simple language. Stop often to check if the patient understands. Know yourself well – do you speak faster when you are anxious? try not to. Try to stay centered and aware of everyone in the room. Breath!

5) respond to the patient's/family's feelings
This need not take a long time and is so important for the patient to feel heard and cared for. Be comfortable with silence. It is okay to say "I'm sorry". We cannot fix everything but we can be present in the moment. Breathe.

6) planning and follow-through
"When you have a problem, you need a plan"

Try to outline the next steps so that the patient/family have a plan. Be explicit about this. The patient/family will have more questions; who do they contact and how?

Difficult communications do happen at many times throughout the course of an illness, not just at the time of diagnosis. This approach can be utilized at any time.

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#30 HYPERCALCEMIA OF MALIGNANCY (February 2006)
"Pearls" from the Palliative Medicine Team

This Pearl is in collaboration between Dr C. Hamm, Oncologist WRCC, and Dr C. Jones, Palliative physician.

Symptoms of hypercalcemia; the range of severity of symptoms depends on the level of calcium and the rate of change.

> **CNS** mild confusion → organic brain syndrome→ coma
> **GI**anorexia, constipation →nausea/vomiting→ severe dehydration
> **Renal**polyuria/polydipsia →renal failure

Hypercalcemia is relatively common in patients with cancer occurring in 10-20% of cases. There are 3 main mechanisms[xii]

1. osteolytic mets with local release of cytokines including osteoclast activators (breast cancer, non small cell lung cancer). This releases calcium from the bone.
2. tumour secretion of a parathyroid hormone-related peptide (PTHrP). This can occur with solid tumours non metastatic to bone and non-Hodgkin's lymphoma. This is called **humeral hypercalcemia of malignancy**. The patient does NOT have to have bone metastases to have hypercalcemia of malignancy. Calcium is released from the bone.
3. tumour production of calcitriol (Vitamin D). Hodgkin's lymphoma and some non-Hodgkin's lymphoma, sarcoidosis, TB. Calcitriol increases intestinal absorption of calcium. This mechanism responds to steroids.

Some patients with malignancy develop primary hyperparathyroidism, the common cause of hypercalcemia in patients without malignancy. (high PTH). This carries a different prognosis than hypercalcemia of malignancy so is important to differentiate.

In non-hematological malignancies and without a reversible obvious cause such as bone metastases, the most likely cause of the hypercalcemia is humorally mediated, specifically parathyroid hormone related protein (PTHrP, #2 above) Humeral hypercalcemia of malignancy can signal a change in the disease status with median survival in the range of months[xiii]. The hypercalcemia may be treated in order to control symptoms and the improve quality of remaining life.

The **bisphosphonates** are stable analogues of naturally occurring pyrophosphate compounds that adsorb strongly to hydroxyapatite crystals in bone mineral. They are

taken up by the skeleton, particularly at sites of bone resorption where more mineral is exposed. Bisphosphonates inhibit osteoclast function and induce apoptosis (programmed cell death) to both the osteoclasts and macrophages, reducing the production of pro-inflammatory cytokines. This effect explains the reduction in bone pain sometimes seen with bisphosphonates.[xiv] The bisphosphonates are also used in some chemotherapy protocols to prevent/delay the development of skeletal events.

Blood Work: ionized calcium
If ionized calcium is not available in a timely manner, order calcium and albumin levels and calculate the corrected calcium. **corrected calcium (mmol/L) = measured calcium + 0.02(40 – Albumin g/L)**
Note: a chronically ill patient with what appears to be a normal calcium but with a low albumin may indeed be hypercalcemic.

e.g.calcium measured 2.48 mmol/L (normal calcium 2.12 – 2.62mmol/L)
albumin 26 g/L
corrected calcium = 2.48 + 0.02(40-26) = 2.76 mmol/L i.e. the corrected calcium lies outside of normal

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Draw a parathyroid hormone to rule out primary hyperparathyroidism. There is a slight increase in the prevalence of hyperparathyroidism in oncologic patients.

Treatment of hypercalcemia of malignancy.
In humorally mediated hypercalcemia, prognosis is limited. Response to bisphosphonates portends a small improvement in survival by months. There needs to be a discussion by the physician with the patient/family weighing the benefits/burdens of treatment in light of the patient's PPS and goals of care. The decision is the patient's or substitute decision maker's if the patient is not capable of making the decision. After a thorough discussion it is sometimes the appropriate decision not to attempt to treat. Part of the discussion should include the first dose policies for IV meds of the nursing agency. Treatment may help with problematic symptoms but prognosis is limited.

1. saline hydration (sodium competes for resorption in renal tubules)
2. bisphosphonates

Drug	Tradename	IV dose	ODB
Pamidronate	Aredia®	30-90 mg (1 mg/min) each 4 wks	yes
Zoledronic Acid	Zometa®	4-8 mg each 4 wks	no

If it is humorally mediated hypercalemia, and there is a no obvious treatable cause, consider transitioning to end of life care. Even with treatment with bisphosphonates, hypercalcemia may signal a change in the disease status with survival limited to months.

Please note that some patients are receiving monthly IV bisphosphonates as part of their adjuvant protocols, not for hypercalcemia. This is important to recognize, as the prognosis is very different.

[xiixii] Agus, ZS, Hypercalcemia of Malignancy, in UpToDate, Wellesley, MA 2006
[xiii] Analysis of Survival Following Treatment of Tumour Induced Hypercalcemia with IV

Pamidronate. Lina, PJ et al. Br J Cancer 1995, 72(1):206-209

[xiv] www.palliativedrugs.com Bisphosphonates

Disclaimer: "Pearls" provides educational information; this information is not medical advice. Health care providers should exercise their own independent clinical judgement. Some "Pearls" cite the use of products with dosages which are "off label". To the best of our ability, we have provided references for these. Health care providers must be fully informed before prescribing any products.

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#31 PERFORMANCE SCALES (March '06)

"Pearls" from the Palliative Medicine Team

	ECOG	PPS	Ambulation	Activity and Evidence of Disease	Self-Care	Karnofsky
Asymptomatic	0	100%	Full	Normal activity and work No evidence of disease	Full	100
Symptomatic fully ambulatory	1	90%	Full	Normal activity and work Some evidence of disease	Full	90
		80%	Full	Normal activity *with effort* Some evidence of disease	Full	80
Symptomatic In bed < 50% day	2	70%	Reduced	Unable normal job/work Significant disease	Full	70
		60%	Reduced	Unable hobby/housework Significant disease	Occasional Assistance necessary	60
		50%	Mainly sit/lie	Unable to do any work Extensive disease	Considerable Assistance Required	50
Symptomatic In bed > 50% day	3	40%	Mainly bed	Unable to do most activity Extensive disease	Mainly Assistance	40
Symptomatic Bedridden	4	30%	Totally bed bound	Unable to do any activity Extensive disease	Total care	30
		20%	Totally bed bound	Unable to do any activity Extensive disease	Total care	20
		10%	Totally bed bound	Unable to do any activity Extensive disease	Total care	10
Dead	5	0%	Death			0

Palliative Performance Scale (Version 2)

Victoria Hospice Society

PPS	Ambulation	Activity and Evidence of Disease	Self-Care	Intake	Level of consciousness
100%	Full	Normal activity and work No evidence of disease	Full	Normal	Full
90%	Full	Normal activity and work Some evidence of disease	Full	Normal	Full
80%	Full	Normal activity *with effort* Some evidence of disease	Full	Normal or reduced	Full
70%	Reduced	Unable normal job/work Significant disease	Full	Normal or reduced	Full
60%	Reduced	Unable hobby/housework Significant disease	Occasional assistance necessary	Normal or reduced	Full or confusion
50%	Mainly sit/lie	Unable to do any work Extensive disease	Considerable assistance required	Normal or reduced	Full or confusion
40%	Mainly bed	Unable to do most activity Extensive disease	Mainly assistance	Normal or reduced	Full or drowsy +/- confusion
30%	Totally bed bound	Unable to do any activity Extensive disease	Total care	Normal or Reduced	Full or drowsy +/- confusion
20%	Totally bed bound	Unable to do any activity Extensive disease	Total care	Minimal to Sips	Full or drowsy +/- confusion
10%	Totally bed bound	Unable to do any activity Extensive disease	Total care	Mouth care only	Drowsy or coma +/- confusion
0%	Death				

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#32 ADDICTION (April '06)

"Pearls" from the Palliative Medicine Team

Tolerance is the need to increase the dosage of the drug to achieve the same effect[8] or, a state of adaptation in which exposure to a drug induces changes that result in a diminution of one or more of the drug's effects over time.[9] It is NOT indicative of addiction. Tolerance is a physiological event.

Tolerance develops to the desired and undesired effects of a drug. Tolerances develop at different rates. Tolerance to sedation from opioids may develop over days; tolerance to the constipating side effects never develops. Tolerance to the analgesic effects may develop but it is never absolute. Patients with unchanging pain can have pain relief from a consistent dose of opioids over time. Worsening pain unfortunately usually means disease progression.

Physical Dependence is a state of adaptation that is manifested by a drug class specific withdrawal syndrome that can be produced by abrupt cessation, rapid dose reduction, decreasing blood level of the drug, and/ or administration of an antagonist.[10] Many medications induce physical dependence; these include β-blockers, α-adrenergic agents, anti-depressants, corticosteroids, and anxiolytics. To avoid the specific withdrawal syndrome, these should not be discontinued suddenly.

Many patients taking opioids long term develop a physical dependence; that is, if the opioid is suddenly stopped, they will have withdrawal symptoms. This is NOT addiction. Physical dependence is a normal and physiological response to long-term opioid therapy. If the painful condition is removed, the opioid may be tapered slowly to avoid withdrawal symptoms.

Addiction (psychological dependence) is an overwhelming involvement with the acquisition and use of the drug, characterized by loss of control, compulsive drug use and continued drug use despite physical, psychological, or social harm.

While tolerance and physical dependence are physical changes in the body, addiction is defined by aberrant changes in behaviour.[11] Addiction is characterized by a craving for mood altering drug effects, not pain relief. Addiction means dysfunctional behaviour, in sharp contrast to the improved function and quality of life that result from pain relief. Aberrant behaviours which indicate addiction may include denial of drug use, lying, forgery of prescriptions, theft from other

[8] Weissman, DE. Is it Pain or Addiction? J of Pall Med 8 (6), 1282, 2005
[9] American Academy of Pain Medicine, American Pain Society, and American Society of Addiction Medicine 2001
[10] American Academy of Pain Medicine, American Pain Society, and American Society of Addiction Medicine 2001.
[11] www.whocancerpain.wisc.edu (World Health Organization)

patients or family members, selling and buying drugs, inability to control the use of a prescription, running out of medications early, tales of losing prescriptions. No single event is diagnostic of addictive disorder; the diagnosis is made in response to a pattern of behaviour over time.

Pseudoaddiction: This term was coined in 1989 to describe an iatrogenic syndrome resulting from poorly treated physical pain.[12] When a patient is in pain and must convince the nurse to give him the inadequately dosed pain medication the patient may demonstrate extreme behaviour in an effort to convince the staff of his need, and the patient may also "clock watch" knowing the medication is only allowed at intervals and also that it will/might take time to convince the busy staff of his need. These behaviours may be misinterpreted by the staff as psychological dependence; but it may be a syndrome caused by inadequate treatment of pain. Pseudoaddiction will improve with adequate treatment of the pain.

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[12] Weissman, DE. Pseudoaddiction. J of Pall Med 8 (6), 1283, 2005

33 DIABETES MELLITUS IN PALLIATIVE MEDICINE (May '06)

"Pearls" from the Palliative Medicine Team

The management of DM changes when the patient's prognosis is measured in only weeks to months. Tight control of blood sugar to prevent long-term complications gives way to concerns about quality of life and symptom management. This "Pearl" is co-created by Dr C Jones with Dr A Kidd, endocrinologist, Windsor, ON. Please forward any comments to cjones@thehospice.ca.

Diabetes Mellitus is either the absence of insulin (Type I) or tissue resistance to insulin (Type II). Patients with Type I DM are insulin dependent; they require exogenous insulin to survive. Patients with Type II DM (NIDDM = non insulin dependent diabetes mellitus) are not insulin dependent although insulin may be used either alone or as an adjunct to oral hypoglycemics with diet modifications (insulin treated vs. insulin dependent). With type II diabetes, resistance to insulin can be exacerbated by many medications. Common ones used in palliative medicine are corticosteroids, octreotide, thiazide diuretics, and olanzapine. Both Type I and Type II can be exacerbated by many situations commonly seen in palliative medicine; uncontrolled pain, anxiety, chemotherapy, infections.

Insulin dependent (Type I) diabetics will require insulin even when not able to eat – e.g. following chemotherapy that has caused nausea/vomiting. The dose of insulin will need modification (upwards or downwards) and the patient may require hydration.

Type II diabetes (NIDDM) may be treated by diet alone, or in combination with oral hypoglycemics and/or insulin.

The sulphonylurea hypoglycemics stimulate the release of insulin from the pancreas. As a group they become dangerous when patients have renal dysfunction, hepatic dysfunction or are not eating regularly. Many palliative medicine patients have all of these factors as well as poor glycogen stores within their liver. The sulphonylureas need to be managed with great care and possibly discontinued at this phase of the patient's illness. The commoner sulphonylureas are glyburide=Diabeta® and gliclazide=Diamicron®.

The biguanide hypoglycemics (metformin= Glucophage®) and thiazolidinediones ("TZD's" such as Avandia®, Actos®) increase the sensitivity of tissues to insulin. They are safer when patients are eating intermittently as they do not stimulate the release of excess insulin. Caution is recommended when the patient may have renal dysfunction or is receiving imaging dye. Endocrinologists might well use the biguanide and/or TZD coupled with insulin as an easily managed routine for a palliative patient.

As patients with Type II DM lose weight, their requirement of hypoglycemics will diminish; indeed many can be discontinued all together. Patients are often asymptomatic when their blood sugars are maintained between 5-15 mmol/l.

On the other hand, if for any reason control of symptoms is poor with oral hypoglycemics, switching to insulin may improve quality of life. The newer long acting insulins (Lantus®, Levemir®) offer much promise due to their smoother control (neither covered on ODB).

Discussion with the patient and their family about changes in the management of their diabetes is important so that changes such as relaxing dietary control is not seen as "giving up on the patient" but understood in the context of the other factors influencing the disease (weight loss) or goals of care (symptom management versus prevention of long term complications)[xv].

With type I diabetics, a blanket policy of not continuing to monitor blood sugars and insulin would be ethically difficult. Discontinuation of insulin would, within hours, result in Diabetic Ketoacidosis. This illness, notable for its intractable nausea and vomiting, would end in a distressing death in about a day in the absence of IV fluids. Any management plan should be made as a team, in collaboration with the patient and family when possible.[xvi]

[xv] Usborne, Wilding. Treating diabetes mellitus in palliative care patients. E J of Pall Care, 2003; 10(5),186-188
[xvi] ibid

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