Objectives

• Define palliative, terminal care
• Describe hospice, palliative care program standards
• Describe conceptions of suffering
• Describe elements of end-of-life care
• Problems management
Palliative care

• The active total care of patients whose disease is not responsive to curative treatment.

• Control of pain, of other symptoms, and of psychological, social and spiritual problems, is paramount, and their families.

• Many aspects of palliative care are also applicable earlier in the course of the illness in conjunction with anti-cancer treatment.

WHO 1990
Palliative care

• Relieving suffering
• Improving quality of life
• Palliative care seeks to prevent, relieve, reduce or soothes the symptoms of disease or disorder without affecting a cure…
• Not restricted to those who are dying
• Affirms life, regards dying as a normal process
• Neither hastens nor postpones death

WHO 1990
Institute of Medicine, USA 1998
Fixed characteristics of the patient

- Diagnosis, prognosis
- Race, ethnicity and culture
- Religion
- Socioeconomic class
Modifiable dimensions

- Physical symptoms
- Psychological, cognitive symptoms
- Social relationships, support
- Economic demands
- Caregiving needs
- Hopes, expectations
- Spiritual, cultural, existential beliefs
Health system interventions

- Community SOCIALWORKERS
- Institutions PHYSIAN,NURSE
- Family / friends

Patient

Health professionals
Outcomes

Quality of life

Utilization

Pain / symptom relief

Satisfaction

Patient

Outcomes
Families

- The whole person goes through the dying process, not just his/her physiology
- No one person can meet all the needs
- How we die is an important personal legacy
- Dying well often demands
  - the chance to be close to family, friends
  - family/proxy assistance with decisions
  - good communication
- None of this is possible without good symptom management
Domains of Quality Palliative Care

1. Structure and Processes of Care
2. Physical Aspects of Care
3. Psychological and Psychiatric Aspects of Care
4. Social Aspects of Care
5. Spiritual, Religious and Existential Aspects of Care
6. Cultural Aspects of Care
7. Care of the Imminently Dying Patient
8. Ethical and Legal Aspects of Care
1]. Hospice
What Is It?

• A program designed to provide palliative care when life expectancy is six months or less

• Covered by Medicare and Medicaid

• Covered by private insurance plans with enhanced home care benefits
Hospice

A place
An organization or program
An approach to or philosophy of care
A system of reimbursement

Palliative care

Not the absence of care
More powerful than ever in the history of medicine
A positive, humanistic philosophy
Technically sophisticated area of expertise

Curative Vs remissive therapy

Presentation

Death
Physical Suffering
The Palliative Response

- Pain and multiple non-pain symptoms
  - Treat pain; it is frequently under-treated
  - Assess/treat other sources of physical distress
- Symptom Prevention
  - Foster compliance with treatment plan
- Advance Planning
  - Collaborate with patient and caregivers
  - Anticipate and plan for likely events
Principles of cancer pain therapy

WHO analgesic ladder

- Non-opioids
- Non-opioids and weak opioids
- Non-opioids and strong opioids
- Psycho./physio-therapy

Co-analgesics
Principles of cancer pain therapy
Medicinal cancer pain therapy
(WHO-Guidelines)

- “By mouth” ( “By skin” )
- “By the clock”
- “By the ladder”
- “For the individual”
- “Attention to detail”
Systematic treatment of chronic pain with opioids

<table>
<thead>
<tr>
<th>WHO Step II</th>
<th>WHO Step III</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weak</strong></td>
<td><strong>Strong</strong></td>
</tr>
<tr>
<td>Tramadol</td>
<td>Morphine</td>
</tr>
<tr>
<td>Codeine</td>
<td>Methadone</td>
</tr>
<tr>
<td>DHC</td>
<td>Hydromorphone</td>
</tr>
<tr>
<td>Tilidate</td>
<td>Oxycodone</td>
</tr>
<tr>
<td></td>
<td>Fentanyl</td>
</tr>
<tr>
<td></td>
<td>Buprenorphine</td>
</tr>
</tbody>
</table>
Opioid analgesics

Effects of a pure (µ-)agonist (e.g. morphine)

Central effects

- Analgesia
- Respiratory depression
- Nausea and vomiting
- Euphoria
- Sedative-hypnotic effect
- Miosis
- Antitussive effect
- Hypotension and decrease of heart rate
Opioid analgesics

Effects of a pure (µ-) agonist (e.g. morphine)

Peripheral effects

1. Constipation
2. Contraction of the sphincter of Oddi muscle and bladder sphincter spasms
3. Histamine release from mast cells
4. Analgesia in inflamed tissue
### Therapeutic approaches

#### Therapeutic approaches in side effects of opioid therapy

<table>
<thead>
<tr>
<th>Side-effect</th>
<th>Incidence</th>
<th>Tolerance</th>
<th>First step</th>
<th>Second step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constipation</td>
<td>Ca. 95%</td>
<td>-</td>
<td>Laxatives</td>
<td>Change the mode of administration</td>
</tr>
<tr>
<td>Nausea/vomiting</td>
<td>Ca. 30%</td>
<td>✓</td>
<td>Anti-emetics</td>
<td>Opioid rotation</td>
</tr>
<tr>
<td>Sedation</td>
<td>Ca. 20%</td>
<td>✓</td>
<td>Opioid rotation</td>
<td>Application close to the spinal cord</td>
</tr>
<tr>
<td>Pruritus</td>
<td>Ca. 2%</td>
<td>-</td>
<td>Opioid rotation</td>
<td>Antihistamines</td>
</tr>
<tr>
<td>Hallucinations</td>
<td>Ca. 1%</td>
<td>-</td>
<td>Opioid rotation</td>
<td>Haloperidol</td>
</tr>
</tbody>
</table>
Opioid analgesics

Transdermal therapeutic systems

Advantages

- constant blood levels
- long duration of effect
- avoidance of the gastrointestinal tract (no first-pass effect)
- high patient compliance

• Disadvantages

- relative sluggish system
- risk of dermal irritation
Principles of cancer pain therapy

- Interdisciplinary diagnosis
- Causal therapy
- Symptomatic therapy
- Procedure according to WHO guidelines
- Take into account recommendations of specialist societies
- Consider individual wishes
The “A's” of Pain Patient Management

- Assessment and reassessment
- Action (comprehensive and integrated treatment plan)
- Analgesia
- Activities of daily living
- Adverse effects
- Adherence to tx
- Aberrant behaviors
Goal of pain management

- Reduce pain
- Improve physical functioning
- Reduce psychological distress
- Improve overall QOL
- Restoration of Functioning
The Terminology of Abuse

• **Physical Dependence**
  – Abstinence syndrome induced by administration of an antagonist or by dose reduction
  – Usually unimportant if abstinence is avoided
  – Assumed to exist after few days’ dosing but actually highly variable
  – Does not independently cause addiction

• **Addiction**
  – Disease with pharmacologic, genetic, psychosocial elements
  – Fundamental features: loss of control, compulsive use, use despite harm
  – Diagnosed by observation of aberrant drug-related behavior

(AAPM/APS, 1996; NIDA, 2001; Passik et al, 2000; Portenoy, 1996)
The Terminology of Abuse

• Tolerance
  – Diminished drug effect from drug exposure
  – Varied types: associative vs. pharmacological
  – Tolerance to analgesia is seldom a problem in the clinical setting:
    • Tolerance rarely “drives” dose escalation
    • Tolerance does not cause addiction

• Pseudo addiction
  – Aberrant drug-related behaviors driven by uncontrolled pain
  – Reduced by improved pain control
  – Complexities
    • How aberrant can behavior be before it is inconsistent with pseudo addiction?
    • Can addiction and pseudo addiction coexist?

(Passik et al, 1998; Passik et al; Portenoy RK, 1996)
Nausea & Vomiting

- **Definition of Nausea**
  - An unpleasant feeling of the need to vomit, often accompanied by autonomic symptoms such as
    - Pallor
    - Cold sweat
    - Salivation
    - Tachycardia

- **Definition of vomiting**
  - The forceful expulsion of gastric contents through the mouth

- **Definition of Retching:**
  - A rhythmic, laboured, spasmodic movement of the diaphragm and abdominal muscles.

- Multifactorial process

- “Causal” therapy, if possible

- Symptomatic therapy according to underlying pathomechanism
Causes of Nausea and Vomiting

1]. Caused by cancer

- Gastro paresis
- Bowel Obstruction
- Constipation
- Hepatomegaly
- Ascites
- Blood in stomach
- Renal Failure

- Raised Intracranial pressure
- Pain
- Anxiety
- Hypercalcaemia
- Hypernatraemia
- Cancer toxicity
Causes of Nausea and Vomiting

2]. Caused by treatment

- Radiotherapy
- Chemotherapy
- Post-operative intra-abdominal adhesions

- Drugs
  - Antibiotics
  - Aspirin
  - Carbamazepine
  - Corticosteroids
  - Digoxin
  - Iron
  - NSAIDS
  - opioids
Causes of Nausea and Vomiting

3]. Related to Cancer and/or debility
   - Cough
   - Infection

4]. Concurrent Causes
   - Peptic Ulcer
   - Alcoholic gastritis
   - Renal failure
   - Functional dyspepsia
The Anatomy of Emesis

Fear, anxiety, Raised ICP, hyponatraemia

Vomiting Centre

Movement

Systemic drugs, metabolites and toxins

Higher centres

Vestibular

Chemoreceptor Trigger Zone and Area Postrema

Emesis

Liver

Mechanoreceptors in gut, viscera & serosa

Chemoreceptor in gut
# Anti – Emetics

## Sites of action

<table>
<thead>
<tr>
<th></th>
<th>D₂ antag</th>
<th>H₁ antag</th>
<th>Achₘ</th>
<th>5HT₂ antag</th>
<th>5HT₃ antag</th>
<th>5HT₄ ag</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metoclopramide</td>
<td>++</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>(+)</td>
<td>++</td>
</tr>
<tr>
<td>Domperidone</td>
<td>++</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cisapride</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>+++</td>
</tr>
<tr>
<td>Ondansitron</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>+++</td>
<td>0</td>
</tr>
<tr>
<td>Cyclazine</td>
<td>0</td>
<td>++</td>
<td>++</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Hyoscine Hydro bromide</td>
<td>0</td>
<td>0</td>
<td>+++</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Haloperidol</td>
<td>+++</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Prochlorperazine</td>
<td>++</td>
<td>+</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Chlorpromazine</td>
<td>++</td>
<td>++</td>
<td>+</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Levomepromazine</td>
<td>++</td>
<td>+++</td>
<td>++</td>
<td>++</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Concomitant medication: Anti-emetics

- Metoclopramide
- Haloperidol
- 5 HT₃ – antagonists
- Dimenhydrinate
- Levomepromazine
- Corticosteroids
- Benzodiazepines
Concomitant medicines: Laxatives

1. prophylactic ally
2. regularly
3. rational combination
4. emollient laxatives
   1. macrogol
   2. lactulose
5. stimulating laxatives
   1. sodium picosulphate
   2. bisacodyl
Artificial Feeding/Hydration

• Tube feedings, hydration, etc. discontinued (or not started); this treatment will only prolong his/her dying, it will not improve their quality of life.

• Do everything necessary to ensure comfort.

• They are not dying from starvation.

• Almost all dying patients lose their interest in eating and drinking in the days to weeks leading up to death; this is the body’s signal that death is coming.
3]. Emotional Suffering
The Palliative Response

- Depression
- Anxiety
- Delirium
- Loneliness
- Dementia
ASSESSMENT OF 3 Ds

<table>
<thead>
<tr>
<th>TEST</th>
<th>SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the year, season, date, day, month?</td>
<td>5</td>
</tr>
<tr>
<td>Where are you: country, town, place, and floor?</td>
<td>5</td>
</tr>
<tr>
<td>Name three objects: state slowly and have patient repeat (repeat</td>
<td>3</td>
</tr>
<tr>
<td>until patient learns all three)</td>
<td></td>
</tr>
<tr>
<td>Do reverse serial 7's (five steps) or spell &quot;WORLD&quot; backwards</td>
<td>5</td>
</tr>
<tr>
<td>Ask for the three unrelated objects above</td>
<td>3</td>
</tr>
<tr>
<td>Name from inspection a pencil, a watch</td>
<td>2</td>
</tr>
<tr>
<td>Have patient repeat &quot;No if&quot; s, and &quot;s, or but &quot;s&quot;</td>
<td>1</td>
</tr>
<tr>
<td>Follow a three-stage command(&quot;Take a paper in your hand, fold it,</td>
<td>3</td>
</tr>
<tr>
<td>and put it on the floor&quot;)</td>
<td></td>
</tr>
<tr>
<td>Read and obey,&quot; Close your eyes&quot;</td>
<td>1</td>
</tr>
<tr>
<td>Write a simple sentence</td>
<td>1</td>
</tr>
<tr>
<td>Copy intersecting pentagons</td>
<td>1</td>
</tr>
</tbody>
</table>
4]. Social Suffering
The Palliative Response

• Limited Income

• Lack of Insurance
  – Insurance often does not cover prescription medicines and home health services

• Inadequate Housing

• Social Isolation

• Caregiver Fatigue
5]. Spiritual Suffering
The Palliative Response

- Loss of hope
- Inability to sustain relations with faith community
- Search for meaning

6]. Culture aspect of the care
7]. End of Life
What Do People Want?

90% of people would prefer to die at home if terminally ill with six months or less to live.

70% would seek hospice care.

62% would seek curative care.

Gallup Poll Results, USA.2005
End of Life in America
Where/How Do We Die?

- 15% die at home
- 10% die unexpectedly
- 25% die in nursing homes
- 50% die in hospitals
Why People Die
Causes of Death

Heart Disease
Cancer
Stroke

Account for 67% of the deaths in people 65 years of age and older
Elements of end-of-life experience

• Fixed characteristics of the patient
• Modifiable dimensions of the patient’s experience
• Care-system interventions
• Outcomes – overall experience of the dying process
Treatment limitation at the end of life

- Right to refuse any intervention
- All patients have rights, even incapacitated
- Withholding / withdrawing
  - not homicide or suicide
  - orders to do so are valid
- Courts need not be involved
8]. DO NOT RESUSCIATE ORDERS

1. Inpatients, with an advanced life-threatening illness (e.g. metastatic cancer, sepsis, acute stroke, etc.);
2. Any patient who were to die within the coming 12 months
3. Inpatients with other "serious" chronic illnesses (COPD, CHF cirrhosis);
4. Outpatients as part of routine advanced directive discussion;
5. For inpatients with non-life threatening diseases (births, simple infections, etc.)--CPR
Conclusions:
Standards for hospice and palliative care

- Access to care, delivery of care
- Informed choices
- Symptom management
- Psychological, social and spiritual support
- Grief, bereavement support
- Continuity between care settings
- Evaluation, research, education
Hold on while I check with someone more senior....
Palliative medicine

Out-patient care

Every physician needs to know
The aim is not just to add days to what is left of life...

But to add life to what is left of days

Thank you for good lessening
What is your (post-cancer breast), painful hip diagnosis?

1. Advanced arthrosis of the hip joint
2. Advanced pelvic osteoporosis
3. Formation of pelvic metastasis
What is your diagnosis?

1. Advanced arthrosis of the hip joint
2. Advanced pelvic osteoporosis
3. **Formation of pelvic metastasis**
What pain therapy do you recommend?

1. Ibuprofen
2. Ibuprofen and percutaneous radiotherapy
3. Tramadol and percutaneous radiotherapy
What pain therapy do you recommend?

1. Ibuprofen
2. Ibuprofen and percutaneous radiotherapy
3. Tramadol and percutaneous radiotherapy
What pain therapy do you recommend?

1. Switch to tramadol, discontinue ibuprofen
2. Switch to tramadol, retain ibuprofen
3. Switch to morphine
What pain therapy do you recommend?

1. Switch to tramadol, discontinue ibuprofen
2. **Switch to tramadol, retain ibuprofen**
3. Switch to morphine
Which pain therapy approach do you recommend?

1. Gradually increase the tramadol dose while retaining the NSAID
2. Switch to morphine 30 mg daily while retaining the NSAID
3. Switch to morphine 80 mg daily while retaining the NSAID
4. Other procedure
Which pain therapy approach do you recommend?

1. Gradually increase the tramadol dose while retaining the NSAID

2. Switch to morphine 30 mg daily while retaining the NSAID

3. Switch to morphine 80 mg daily while retaining the NSAID

4. Other procedure
What pain therapy approach do you recommend?
1. Switch back to tramadol
2. Reduce the dose of morphine
3. Switch to transdermal fentanyl
4. others
What pain therapy approach do you recommend?
1. Switch back to tramadol
2. Reduce the dose of morphine
3. Switch to transdermal fentanyl
4. Others
Which of the following laxatives are osmotically effective?
(1) Lactulose
(2) Na-Pico sulphate
(3) Macrogol
(4) Bisacodyl
(5) Paraffin
Which of the following laxatives are osmotically effective?

(1) Lactulose
(2) Na-Pico sulphate
(3) Macrogol
(4) Bisacodyl
(5) Paraffin
What is your tentative diagnose?
1. Neuropathic pain due to nerve-infiltration by the tumor
2. Pathological fracture of the sacral bone
3. Tumor infiltration into the urinary bladder
What is your tentative diagnose?

1. Neuropathic pain due to nerve-infiltration by the tumor
2. Pathological fracture of the sacral bone
3. Tumor infiltration into the urinary bladder
What pain therapy approach do you recommend in NP?
1. Addition of carbamazepine to existing regime
2. Addition of flurpirtine to existing regime
3. Switch to next higher strength of fentanyl patch
What pain therapy approach do you recommend in NP?

1. Addition of carbamazepine to existing regime
2. Addition of flurpirtine to existing regime
3. Switch to next higher strength of fentanyl patch
Of antiplatelet drugs.
1- aspirin exerts its antiplatelet action by increasing the synthesis of thromboxane A2.
2- dipyridamole can be of great benefit in venous thromb embolism.
3- All prostaglandins encourage platelet aggregation.
4- None should ever be administered in conjunction with oral anticoagulants.
5- Low molecular weight dextran reduce platelet aggregation.
Of antiplatelet drugs.
1- Aspirin exerts its antiplatelet action by increasing the synthesis of thromboxane A2.
2- Dipyridamole can be of great benefit in venous thromb embolism.
3- All prostaglandins encourage platelet aggregation.
4- None should ever be administered in conjunction with oral anticoagulants.
5- Low molecular weight dextrans reduce platelet aggregation.
Bowel motility is increased with:
1- Vagal stimulation.
2- Anti cholinesterase drugs
3- High spinal/epidural with local anesthetics.
4- Intrathecal/epidural opiates.
5- Diazepam.
Bowel motility is increased with:

1- Vagal stimulation.
2- Anti cholinesterase drugs
3- High spinal/epidural with local anesthetics.
4- Intrathecal/epidural opiates.
5- Diazepam.
With regard to pneumonia:

1- Hospital acquired pneumonia in ventilated patients is typically caused by gram-negative rode.
2- AIDS pneumonia is often caused by cytomegalovirus infection.
3- Staphylococcus aura typically causes a cavitating bronchopneumonia.
4- Penicillin is the antibiotic of choice for treating regional pneumonia.
5- Haemophilus influenza causes lobar pneumonia.
With regard to pneumonia:

1- Hospital acquired pneumonia in ventilated patients is typically caused by gram-negative rode.
2- AIDS pneumonia is often caused by cytomegalovirus infection.
   a 3- Staphylococcus aura typically causes a cavitating bronchopneumonia.
4- Penicillin is the antibiotic of choice for treating regional pneumonia.
5- Haemophilus influenza causes lobar pneumonia.
With regard to anaphylactic drug reactions:
1- The severity of cutaneous manifestations correlates well with CVS changes.
2- When a reaction occurs after a barbiturate and a muscle relaxant have been given IV in rapid sequence, it is more likely that the barbiturate is at fault.
3- Tachycardia after a suspected drug allergic reaction should be treated with a beta blocker.
4- The immediate treatment of choice is IV hydrocortisone
5- Reducing the speed of administration of a drug attenuates the effects of a possible drug reaction.
With regard to anaphylactic drug reactions:

1. The severity of cutaneous manifestations correlates well with CVS changes.
2. When a reaction occurs after a barbiturate and a muscle relaxant have been given IV in rapid sequence, it is more likely that the barbiturate is at fault.
3. Tachycardia after a suspected drug allergic reaction should be treated with a beta blocker.
4. The immediate treatment of choice is IV hydrocortisone.
5. Reducing the speed of administration of a drug attenuates the effects of a possible drug reaction.
With regard to alternative Opioids delivery systems:
1- Plasma concentrations with transdermal fentanyl are less constant than with intermittent IV or IM injections.
2- Incidence of side effects is low with transdermal fentanyl compared to other routes of administration.
3- Iontophoretic Opioids delivery is more rapid than transdermal route.
4- Onset of action of an Opioids delivered transnasally is likely to be better than with the oral route.
5- Morphine is more suitable than fentanyl when used by the oral transdermal (buccal) route.
With regard to alternative Opioids delivery systems:
1- Plasma concentrations with transdermal fentanyl are less constant than with intermittent IV or IM injections.
2- Incidence of side effects is low with transdermal fentanyl compared to other routes of administration.
3- Iontophoretic Opioids delivery is more rapid than transdermal route.
4- Onset of action of an Opioids delivered transnasally is likely to be better than with the oral route.
5- Morphine is more suitable than fentanyl when used by the oral transdermal (buccal) route.
INCONTINENCE MANAGEMENT QUIZ

1. In order to stay dry, incontinent residents need toileting assistance how often within a 12-hour period? a.____ 1-2 times b.____ 3-4 times c.____ 5-6 times d.____ 7-8 times

2. On average, how often is toileting assistance usually offered during the daytime to incontinent nursing home residents? a.____ Less than once during the day b.____ 1-2 times c.____ 3-4 times d.____ 5-6 times

3. Which of the following has been shown to significantly improve continence? a.____ Scheduled toileting b.____ Prompted voiding c.____ Habit training d.____ Use of diapers

4. Prompted voiding works by: a.____ Encouraging residents to ask for toileting assistance. b.____ Offering toileting assistance every two hours during the daytime. c.____ Heightening residents’ awareness of their continence status. d.____ All of the above.

5. A resident's responsiveness to prompted voiding can best be determined based on: a.____ Functional performance test b.____ Cognitive performance test c.____ Brief trial of prompted voiding d.____ Any one of the above tests or trials

6. Residents who prove responsive to prompted voiding will use the toilet appropriately: a.____ Less than a third of the time b.____ About half the time c.____ More than two-thirds of the time d.____ Always

7. Which of the following strategies can make it more feasible for facilities to provide prompted voiding? a.____ Forego offering prompted voiding at nighttime b.____ Integrate prompted voiding with interventions that enhance residents' mobility c.____ Reduce the number of daytime hours during which prompted voiding is offered d.____ All of the above

8. If your facility fails to monitor its prompted voiding program, then: a.____ Federal surveyors may cite your facility. b.____ Nurse aides may stop implementing the prompted voiding protocol consistently. c.____ Residents will lose their ability to use the toilet appropriately. d.____ All of the above.

9. The purpose of a control chart is to: a.____ Compare a resident's preferences for toileting assistance to the amount of toileting assistance actually provided. b.____ Compare the number of times a resident toileted appropriately to the number of times the resident was asked to toilet. c.____ Compare the percentage of residents found wet at any given time to the percentage who should be wet if the prompted voiding program is working as expected. d.____ Compare the incidence of incontinence in a given facility to the incontinence incidence in all other nursing homes.

10. Sharing the results of wet checks with your nurse aides can: a.____ Elicit their suggestions for resolving any problems that may arise in the prompted voiding program. b.____ Help aides see a tangible connection between the work they do and the well-being of residents. c.____ Motivate the aides to consistently implement the prompted voiding protocol. d.____

A17: true, 1. b; 2. a; 3. b; 4. d; 5. c; 6. c; 7. d; 8. b; 9. c; 10. d
Question

Acute pain ...

(1) ... has a distinct warning and protective function
(2) ... can become a disease in its own right
(3) ... does not correlate in intensity with the triggering stimulus
(4) ... can always be assigned to the causative event
Acute pain ...

(1) ... has a distinct warning and protective function

(2) ... is not clearly localized

(3) ... does not correlate in intensity with the triggering stimulus

(4) ... does activate the sympathetic system with release of catecholamines
Nociceptors ...

(1) ... are present in the walls of vessels and hollow organs
(2) ... are free nerve endings of \( A\delta \) and \( C \) nerve fibres
(3) ... are present in large numbers in the skin, muscles and periosteum
(4) ... are always unimodal
Nociceptors ...

(1) ... are present in the walls of vessels and hollow organs

(2) ... are free nerve endings of A-delta and C nerve fibres

(3) ... are present in large numbers in the skin, muscles and periosteum

(4) ... are always unimodal