GORDON'S FUNCTIONAL HEALTH PATTERNS

An expression of biopsychological integration; thus, no one pattern can be understood without knowledge of the other patterns.

[1] Marjory Gordon (proponent)

A theoretical framework for health assessment that captures an individual's holistic health status and promote health.

[2] Functional Pattern represents a healthy set of behaviors

[3] Dysfunctional Pattern (described by Nursing Diagnoses) may occur with disease and may also lead to disease.

The judgment of whether a pattern is functional or dysfunctional is made by comparing the assessment to one or more of the following:

1. Individual baseline
2. Established Norms for Age Group
3. Cultural, Social, or other Norms

[4] Health-Perception – Health-Management Pattern

Describes the client's perceived pattern of health and well-being and how health is managed.

Including:

- Perception of health status and its relevance to current activities and future planning
- Individual's health risk management and general healthcare behavior

Questions:

- How has general health been?
- Any colds in the past year? If appropriate, absences from work/school?
- Most important things done to keep healthy? Did these things make a difference to health (include family folk remedies, if appropriate)? Breast self-examination? Use cigarettes? Drugs? Ever had a drinking problem? When was your last drink?
- Accidents (home, work, driving)? Falls?
- In past, easy to find ways to follow suggestions of doctors or nurses?
- If appropriate, what do you think caused this illness?Action taken when symptoms perceived? Results of action?
- If appropriate, what is important to you while you are here? How can we be most helpful?

[5] Nutritional-Metabolic Pattern

Pattern of food and fluid consumption relative to metabolic need and pattern indicators of local nutrient supply

Including:

- Daily eating types
- Type and quantity of food and fluids consumed
- Food preferences
- Use of nutrient or vitamin supplements
- Breastfeeding and infant feeding patterns
- Reports of skin lesions, ability to heal
- Measures body temperature, height, and weight
- General appearance of well-being and the condition of skin, hair, nails, mucous membranes, and teeth

Questions:

- Typical daily food intake? Describe. Supplements?
- Typical daily fluid intake? Describe.
- Weight loss/gain? Amount? Height loss/gain? Amount?
- Appetite?
- Food or eating discomfort? Swallowing? Diet restrictions? If appropriate, breastfeeding? Problems with breastfeeding?
- Heal well or poorly?
- Skin problems, such as lesions, dryness?
- Dental problems?

[6] Elimination Pattern

Patterns of excretory function (bowel, bladder, and skin)

Includes

- Perceived regularity of excretory function
- Use of routines or laxatives for bowel elimination
- Changes or disturbances in time, pattern, mode of excretion, quality, or quantity of elimination.
- Devices used to control excretion

Questions:

- Bowel elimination pattern? Describe. Frequency? Character? Discomfort? Problem in control? Laxatives?
- Urinary elimination pattern? Describe. Frequency? Discomfort? Problem in control?
- Excess perspiration? Odor problems?

[7] Activity-Exercise Pattern

Pattern of exercise, activity, leisure, and recreation

Includes:

- Activities of daily living requiring energy expenditure (hygiene, cooking, shopping, eating, working, and home maintenance)
- Type, quantity, and quality of exercise (sports)
- Leisure patterns and activities the client undertakes as recreation with a group or as an individual
- Limitations in performing activities
- Factors that interfere with desired or expected activities
    - Neuromuscular deficits
    - Dyspnea
    - Angina
    - Muscle cramps

Questions:

- Sufficient energy for desired/required activities?
- Exercise pattern? Type? Regularity?
- Spare time (leisure) activities? Child's play activities?
- Perceived ability for the following (code level according to Functional Levels Code below)

Feeding	_____	Grooming	_____
Bathing	_____	General Mobility	_____
Toileting	_____	Cooking	_____
Bed Mobility	_____	Home Maintenance	_____
Dressing	_____	Shopping	_____

Functional Levels Code	
Level 0	Full self-care
Level I	Requires use of equipment or device
Level II	Requires assistance or supervision of another person
Level III	Requires assistance or supervision of another person and equipment or device
Level IV	Is dependent and does not participate

[8] Sleep-Rest Pattern

Patterns of sleep, rest, and relaxation

Includes:

- Perception of the quality and quantity of sleep during the 24-hour day
- Energy level after sleep
- Sleep disturbances
- Aids to sleep, such as medications or nighttime routines

Questions:

- Generally rested and ready for daily activities after sleep?
- Sleep-onset problems? Aids? Dreams (nightmares)?
- Early awakening?
- Rest/relaxation periods?

[9] Cognitive-Perceptual Pattern

Sensory-perceptual and cognitive pattern

Includes:

- Adequacy of sensory modes (vision, hearing, taste, touch, and smell)
- Compensation or prostheses currently used
- Reports of pain perception and how pain is managed
- Cognitive functional abilities: language, memory, judgment, and decision-making

Questions:

- Hearing difficulty? Aid?
- Vision? Wear glasses? Last checked?
- Any change in memory lately?
- Easy/difficult to make decisions?
- Easiest way for you to learn things? Any difficulty learning?
- Any discomfort? Pain? How do you manage it?

[10] Self-Perception-Self-concept Pattern/ Role-Relationship Pattern

Self-concept pattern and perception of mood state

Includes:

- Individual's attitudes about self, perception of abilities (cognitive, affective, or physical), body image, identity, general sense of worth, and general emotional pattern
- Body posture and movement, eye contact, voice, and speech pattern

Questions:

- How would you describe yourself? Most of the time, do you feel good (not so good) about yourself?
- Changes in your body or the things you can do? Are these problematic for you?
- Changes in way you feel about yourself or your body (since illness started)?
- Find things frequently make you angry? Annoyed?
- Fearful? Anxious? Depressed? What helps?
- Ever feel you lose hope? Not able to control things in life? What helps?

[10] Role–Relationship

Pattern of role engagement and relationship

Includes:

- Perception of major role and responsibilities in the current life situation
- Satisfaction or disturbances in family, work, or social relationships and responsibilities

Question:

- Live alone? Family? Family structure? Draw diagram.
- Any family problems you have difficulty handling (nuclear/extended)?
- How does the family usually handle problems?
- Family depend on you for things? How are you managing?
- If appropriate, how do family/others feel about your illness/hospitalization?
- If appropriate, problems with children? Difficulty handling?
- Belong to social groups? Close friends? Feel lonely (frequency)?

[11] Sexuality-Reproductive Pattern

Pattern of satisfaction or dissatisfaction with sexuality and the reproductive pattern

Includes:

- Individual's perceived satisfaction or reports of disturbances in his or her sexuality
- Female's reproductive stage (premenopause or post menopause) and perceived problem

Question:

- If appropriate to age/situation, sexual relationships satisfying? Changes? Problems?
- If appropriate, use of contraceptives? Problems?
- For females, when menstruation started? Last menstrual period? Menstrual problems? Para? Gravida?

[12] Coping-Stress-Tolerance Pattern

General coping pattern and the effectiveness of the pattern in terms of stress tolerance

Includes:

- Individual's reserve or capacity to resist challenge to self-integrity
- Modes of handling stress
- Family or other support systems
- Perceived ability to manage stressful situations

Question:

- Any big changes in your life in the last year or two? Crisis?
- Who's most helpful in talking things over? Available to you now?
- Tense a lot of the time? What helps? Use any medicines, drugs, alcohol?
- When (if) problems occur in your life, how do you handle them?
- Most of the time, is this ways) successful?

[13] Value-Belief Pattern

Patterns of values, goals, or beliefs (including spiritual)

Including:

- What is perceived as important in life
- Quality of life
- Perceived conflicts in values, beliefs, or expectations that are health-related

Question:

- Generally get things you want out of life? Important plans for the future?
- Religion important in your life? If appropriate, does this help when difficulties arise?
- If appropriate, will being here interfere with any religious practices?

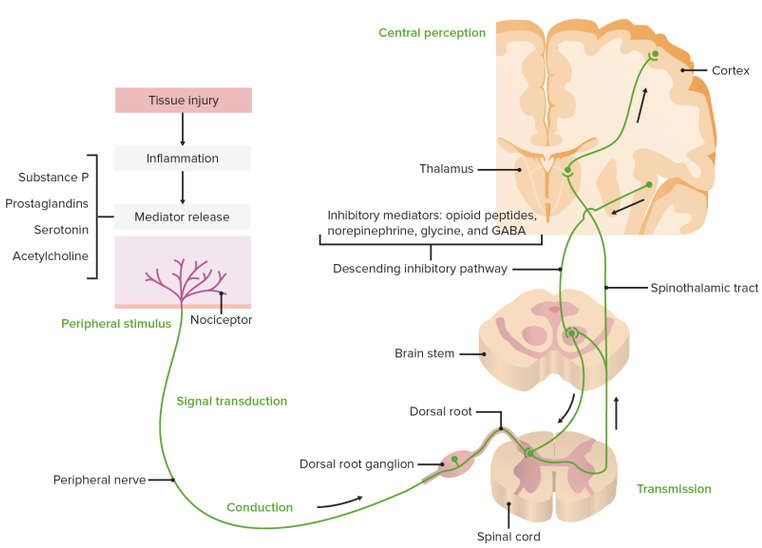
ASSESSING PAIN

'Whatever the person says it is, whenever they say it does.'

- The **[14]** 5th vital sign
- A symptom; subjective
- An **[15]** Unpleasant sensory and emotional experience associated with actual or potential tissue damage

Structure and Function of Pain

[16] Nociception– the process of transmission and perception of pain



a. [17] Transduction
- Response to a noxious stimulus
- Can be mechanical, thermal, or chemical
- **[18]** Nociceptors – receptors (in skin, subcutaneous tissue, joints, walls of arteries, and most internal organs) that respond to painful stimuli
- **[19]** Inflammatory Mediator – activate or sensitize the nociceptors
  - Bradykinin
  - Prostaglandin
  - Substance P
  - Histamine
  - Serotonin
  - Cytokines

19)

b. [20] Transmission

Transmission of nerve impulses to the spinal cord and brain

I. Impulses travel through primary afferent nerve fibers
- [21] C-Fibers – unmyelinated, slow-conducting fibers that transmit dull, aching pain (mechanical, thermal, and chemical stimuli)
- [22] A-Delta Fibers – myelinated, fast-conducting fibers that transmit sharp, localized, pain (mainly mechanical)

II. Neurotransmitters and Neuropeptides
   a. Excitatory amino acids: Glutamine and aspartate
   b. Excitatory Neuropeptides: Substance P
      i. Facilitate transmission of impulse to the dorsal horn
   c. Inhibitory Amino Acid: GABA
   d. Inhibitory Neuropeptide: Endogenous opioids
      i. Inhibit transmission of impulse

III. Dorsal horn of SC then to the
   a. Thalamus
      i. The thalamus acts as a central relay station, receiving, integrating, and transmitting pain (nociceptive) information from the body to the cerebral cortex.
   b. Reticular Formation
      i. To initiate immediate alertness, initiate behavioral defense mechanisms, and regulate autonomic responses to noxious stimuli
   c. Mesencephalon/Midbrain
      i. Pain is transmitted to the midbrain primarily for processing, modulation, and generating emotional or behavioral responses to noxious stimuli.
   d. Hypothalamus
      i. This pathway facilitates essential survival functions, including stress responses, changes in temperature regulation, sleep disturbances, and the

affective (emotional) suffering associated with pain.

IV. Somatosensory Cortex
   a. Perceives and interprets physical sensation

V. Limbic System
   a. Allows for emotional response to stimuli

VI. Frontal Cortex
   a. Thought and reason, and perception of pain

c. [23] Perception

Awareness of pain involves both the cortical and the limbic system structures

[24] Pain Threshold – Painful stimulus is perceived as painful, consistent from one person to the next

[25] Pain Tolerance – the amount of pain one can endure, varies greatly
Psychosocial and cultural factors and past experiences influence pain perception

d. [26] Modulation

Nerve transmission from the dorsal horn is modulated by descending *inhibitory input:*

- Peripheral
- Spinal
- Supraspinal

Inhibitory substances bind to primary afferent receptors and dorsal horn neurons to inhibit the transmission of impulse.

Gate-control Theory of Pain Modulation
proposes that impulses can be blocked by non- painful somatic stimuli. Impulses compete for transmission.

e. [27] Sensitization

Peripheral sensitization occurs with prolonged exposure to noxious stimuli. The result is a lower threshold of pain, leading:

- hyperalgesia (increased response to painful stimuli)
- allodynia (painful response to nonpainful stimuli).

Pain Classification

[28] Acute Pain	lasts the expected recovery time and serves as a protective mechanism in response to an actual or potential threat to injury
Cause	Injury or pathology Nociception and/or sensitized central neurons
Duration	Self-limiting, resolves with healing
Effects	Activates autonomic nervous system Protective responses
[29] Chronic Pain	defined as pain enduring for 6 months or longer. Chronic pain endures beyond expected recovery time. Complication: Depression
Cause	May or may not be associated with pathology
Duration	Persists beyond expected healing time Continuous, intermittent, with or without acute exacerbation
Effects	Parasympathetic response; Normal vital signs; Dry, warm skin Depressed and Withdrawn No protective behaviors
[30] Cancer/ Malignant	Pain associated with cancer Cancer pain arises from complex mechanisms, primarily tumor-induced tissue destruction, inflammation, and nerve damage (neuropathic) or compression. It is driven by tumor-released chemicals, acidosis, and immune cell interaction that sensitize sensory nerves, leading to persistent, often severe pain. Intractable pain – Pain that is resistant to treatment
Cause	Associated with underlying malignancy, diagnostic procedure, or disease treatment
Duration	May be acute or chronic Pain level strongly correlates with the degree of pathology
Effects	Variable depending on location and duration
[31] Chronic Noncancer Pain	Persistent pain not associated with malignancy;
Cause	Associated with chronic disease or no identifiable cause Osteoarthritis, chronic low back pain, and neuropathic disorders
Duration	Prolonged Possibly lifelong
Effects	Pain, ranging from mild to excruciating and possibly affecting any system or region
[32] Chronic pain syndrome	the patient can no longer function and her or his entire life is centered on finding pain relief (palliation)
Cause	Chronic pain that consumes and incapacitates patient
Duration	Prolonged Possibly lifelong
Effects	Psychosocial dysfunction (anger, depression, anxiety, substance abuse) May stress personal and work relationships

Nociceptive and Neuropathic Pain

[33] Nociceptive Pain
Results from exposure to noxious stimuli, causing visceral or somatic pain

	[34] Visceral	[35] Somatic
Cause	Overdistension, spasms, ischemia, inflammation, or traction of organs	Superficial Somatic: Originates in the skin or mucous membranes from external stimuli such as sunburn; chemical and thermal burns; or injury to the skin, such as lacerations or contusions Deep Somatic: muscles, bones, and joints from overuse,

		injury ischemia, cramping, or inflammation; arthritis, tendinitis, and sprains
Characteristics	Pain can be localized or diffused; can be deep or sharp [36] Referred Pain – pain felt at a site other than at the site of origin [37]Radiating Pain – Pain beginning in one area and extend to others	Superficial Somatic: Very localized; Sharp, pricking, or burning Deep Somatic: localized or diffuse and radiating and described as dull, achy, or cramping
Associated Symptoms	Nausea, Vomiting, Malaise, Sweating, Tenderness, and Muscle spasm	Superficial Somatic: Hyperalgesia, hyperesthesia, allodynia Deep Somatic: autonomic response (increase pulse, blood pressure, and respiratory rate; sweating; pal- lor; dilated pupils; nausea; vomiting; dry mouth; and increased muscle tension)

[39] Neuropathic Pain results from injury to the peripheral or central nervous system. Neuropathic pain serves no adaptive purpose and therefore is "pathological" pain.	
[40] Mono/ Polyneuropathies pain along one or more damaged peripheral nerves	Causes: - metabolic disorders (diabetic neuropathy) - toxins (alcoholic neuropathy or chemotherapy) - infections (human immunodeficiency virus [HIV] - postherpetic neuralgia) - trauma - compression (compartment syndrome, carpal tunnel syndrome) - Autoimmune and hereditary diseases
	Characteristics: - Continuous - Deep - Burning - Aching or bruised - Paroxysmal shock like - Abnormal skin sensitivity
[41] Deafferentiation with loss of afferent input from damage to a peripheral nerve, ganglion, or plexus, or the CNS.	Causes/ Associated condition: *Phantom limb pain* Pain that is experienced in a missing limb
	Characteristics:
	- Burning - Cramping - Crushing - Aching - Stabbing - Shooting
Sympathetically Maintained Pain [42] pain mechanism that results from sympathetic nervous stimulation	Causes: - Peripheral nerve damage - Sympathetic efferent innervation - Catecholamines
	Characteristics: - Constant - Burning - Stinging - Tearing
[43] Central Pain primary lesion or dysfunction of the CNS	Causes: - Ischemia - Tumors - Trauma - Syrinx - demyelination
	Characteristics: - Burning - Numbing - Tingling to a shooting sensation

Developmental Considerations

INFANT

Since the infant cannot verbalize pain, physiological and behavioral indicators are used to assess for pain in the infant.

PHYSIOLOGICAL CHANGES	*BEHAVIORAL CHANGES*
Integumentary System: Pallor or flushing, diaphoresis, palmar sweating. Cardiovascular: Increased heart rate, increased blood pressure. Respiratory: Rapid, shallow respirations, decreased arterial oxygen saturation, and transcutaneous oxygen saturation. Musculoskeletal: Increased muscle tone. Neurological: Increased intracranial pressure, dilated pupils, decreased vagal nerve tone. Endocrine (hormonal release): Increased catecholamines, growth hormones, glucagon, cortisol, corticosteroids, and aldosterone. Metabolism: Increased plasma lactate, pyruvate, ketone bodies, and fatty acids. Laboratory values: Increased blood glucose (hyperglycemia)	Vocalization: Intense, sustained crying, whimpering, and groaning. Facial expression: Eye squeeze, brow bulge, open mouth, taut tongue, chin quivering, and grimaces. Body movements: Limb withdraw, thrashing, rigidity or flaccidity, and fist clenching. Sleep/wake cycle: Increased wakefulness and irritability. Feeding: Loss of appetite, vomiting, loss of interest and/or energy in sucking. Activity level: Decreased activity level; fussiness, irritability, and listlessness.

and corticosteroid levels and decreased pH.	
CHILDREN	
[44] Question the child	Self-report is the most accurate means for assessing pain
[45] Use a Pain Rating Scale	Be sure to select one that is age appropriate for your patient
[46] Evaluate Behavioral and Physiological Changes	If the child is nonverbal and unable to describe pain, detecting behavioral and/or physiological changes is essential.
[47] Secure Parents' Involvement	Parents are more attuned to subtle changes in their child's behavior. *How do you know your child is having pain?*
[48] Take the Cause of Pain Into Account	Consider the pathophysiology of the underlying problem when you evaluate the child's pain.
[49] Take Action and Evaluate Results	After assessing the pain, develop a plan to treat the pain.
OLDER ADULT Assessing pain in the older patient can be challenging because of the misconceptions both patients and healthcare providers have surrounding pain and the elderly.	
Untreated pain increases the risk for complications such as - Pneumonia - Constipation - deep vein thrombosis - impaired immune function - sleep disturbances, weight loss - social isolation - depression.	Keep questions simple, specific, and in the here and now. If the patient is unable to verbally communicate, rely on physiological signs associated with pain, such: - increased blood pressure, heart rate, and respirations - diaphoresis - behavioral changes, such as agitation, restlessness - facial expression of pain - vocal sounds (moaning and groaning)

PERFORMING THE PAIN ASSESSMENT

Health History	
Biographical Data	Patient's age, ethnicity, and religion may affect her or his perception and behavioral response to pain; Occupation may be a direct cause of the pain
Current Health Status	Perform a symptom analysis. The mnemonic PQRST provides a thorough description of pain. **[50]** Precipitating/Palliative/ Provocative Factors What were you doing when the pain started? Does anything make it better, such as medication or a certain position? Does anything make it worse, such as movement or breathing?

	[51] Quality/Quantity *What does it feel like?* - Superficial somatic pain is sharp, pricking, or burning. - Deep somatic pain is dull or aching. - Visceral pain is dull, aching, or cramping. - Neuropathic pain is burning, shock-like, lancing, jabbing, squeezing, or aching. - How often are you experiencing it? *To what degree is the pain affecting your ability to perform your usual daily activities?* **[52]** Region/ Radiation/ Related Symptoms *Can you point to where it hurts?* *Does the pain occur or spread anywhere else?* - Localized - Referred - Projected (Transmitted) - Dermatomal - Nondermatomal *Do you have any other symptoms?* Visceral pain – related symptoms include: - sickening feeling - nausea - vomiting - autonomic symptoms Neuropathic pain – related symptoms include: - hyperalgesia - allodynia Complex regional pain syndrome related symptoms include: - hyperalgesia - hyperesthesia - allodynia - autonomic changes - shin, hair, and nail changes. **[53]** Severity Use appropriate pain scale. **[54]** Timing When did the pain begin? How long did it last? - Brief flash: Quick pain as with needle stick. - Rhythmic pulsation: Pulsating pain as with migraine or toothache - Long-duration rhythmic: As with intestinal colic. - Plateau pain: Pain that rises then plateaus such as angina. - Paroxysmal: Such as neuropathic pain. How often does it occur? Do you have times when you are pain free?

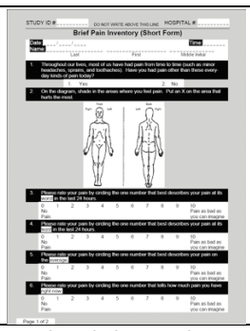
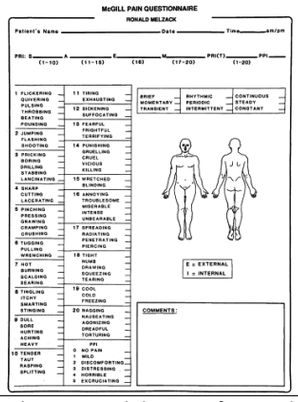
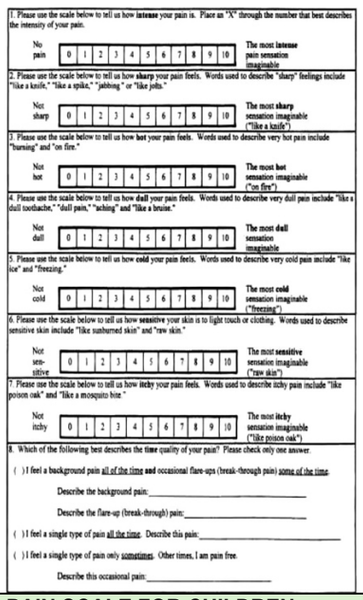
Past Health History	The past health history can identify factors that may affect the patient's pain, response to pain, and treatment plan. - Cause of pain. - Past and present medical problems that may influence pain and its management. - Past psychiatric illnesses and chemical dependence. - Past and present pain management strategies. - Past experiences with pain.
Family History	The family history may identify genetically linked causes of pain, such as sickle cell anemia and cancer. The family history also identifies familial history of chronic pain or illness.
Review of Systems	If there is a problem in one system, eventually other systems will be affected
Psychosocial Profile	Assessing the psychosocial history identifies the effects that pain has on every aspect of the patient's life and evaluates quality of life.

PAIN SCALES FOR ADULTS

[55] Unidimensional - Assesses one dimension, usually intensity of pain, and is often used to assess acute pain.

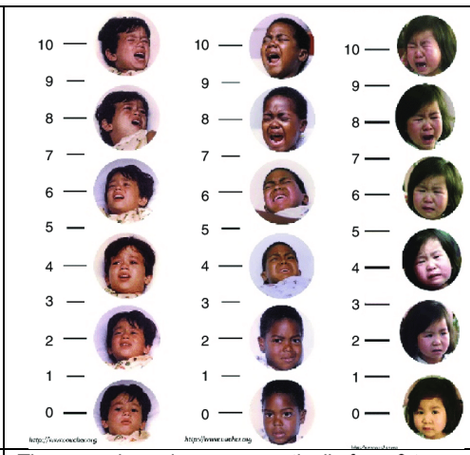
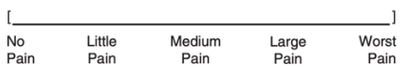
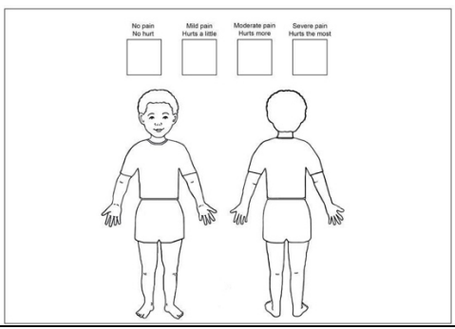
[56] Multidimensional- provide additional information about pain, such as the pain's characteristics and the effects on the patient's daily life.

UNIDIMENSIONAL These scales generally use numeric, verbal, or visual descriptors to quantify pain.	
Numeric Rating Scale	Numeric Rating Scale rates pain on a scale of 0 (no pain) to either 5 or 10 (worst pain) by asking the patient to rate her or his current pain level.
[57] Visual Analogue Scale	Visual Analogue Scale utilizes a vertical or horizontal 10-cm line with anchors. The patient marks his or her current pain level on the line.
MULTIDIMENSIONAL Assess pain characteristics and its effects on patient's activities of daily living and include	
[58] Initial Pain Assessment Inventory	assesses characteristics of pain; effects of pain on the patient's life, such as daily activities, sleep, appetite, relationships, and emotions; and the patient's expression of pain 
Brief Pain Inventory	The BPI is used to quantify pain intensity and associated disability. It assesses pain intensity, location, effects on life, type, and effectiveness of treatment over the last 24 hours.

	
McGill Pain Questionnaire	The MPQ uses descriptive words to assess pain on three levels: sensory, affective, and evaluative. 
[59] Neuropathic Pain Scale	Assesses the type and degree of sensations associated with neuropathic pain. 

PAIN SCALE FOR CHILDREN

[60] FACES Pain Rating Scale	Ages 3 years and up Wong-Baker has five faces from which the child can select her or his current pain level  Explain to the person that each face is for a person who feels happy because he has no pain (hurt) or sad because he has some or a lot of pain. Face 0 is very happy because he doesn't hurt at all. Face 2 hurts a little more. Face 3 hurts even more. Face 4 hurts a whole lot. Face 5 hurts as much as you can imagine, although you do not have to be crying to feel this bad. Ask the person to chose the face that best describes how he is feeling. Rating scale is recommended for persons age 3 and older.
[61] Oucher	assesses pain for children ages 3 to 13 years with photos or a numeric scale.

	
Numeric Scale	The numeric scale ranges vertically from 0 to 100, with 0 being "no hurt" and 100 being "biggest hurt" - 0 – no hurt - 1–29 – little hurt - 30–69 – middle hurt - 70–99 – big hurt - 100 – biggest hurt Ages 5 years and older. uses a horizontal linear scale with numbers from 0 to 5 or 10, with 0 being "no pain" and 5 or 10 being "worst pain."
Poker Chip Tool [62]	Poker Chip Tool assesses pain in children 4 years of age and up. The nurse places red poker chips horizontally in front of the child, with the poker chips denoting "pieces of hurt."
Word-Graphic Rating Scale	ages 4 to 17 years. It uses words on a horizontal linear scale to assess pain 
Visual Analogue Scale	Children age 4½ and older identify her or his pain level by marking the line in the area that represents her or his level of pain
Color Tool [63]	as young as 4 years The child creates a body outline using colored markers or crayons. 

PERFORMING THE PAIN ASSESSMENT

Physical Assessment

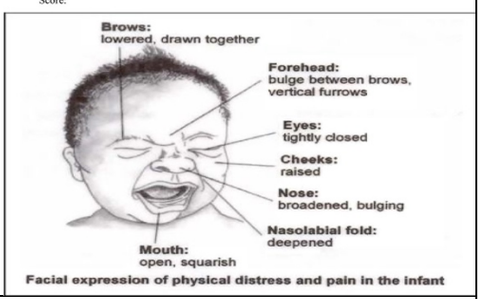
Purpose:

- Identify underlying cause
- Identify the complications associated with untreated pain

Use: When patients are unable to verbally communicate or who are cognitively impaired

Behavioral Pain Assessment Scales for Infants

(Crying, Requiring Increased Oxygen, Increased Vital Signs, Expression, Sleeplessness) [64]	assesses postoperative pain from 32 weeks' gestation to 20 weeks' post-term A score of 10 equates to the worst pain, and any score greater than 4 identifies significant pain **CRIES Scale** 0 / 1 / 2 Crying: None / High-pitched / Inconsolable Requires O_2: None / <30% FiO_2 needed / >30% FiO_2 needed Increased vital signs: Normal HR & BP / Increased HR & BP <20% / Increased HR & BP >20% Expression: Normal / Grimace / Grimace & grunt Sleeplessness: None / Wakes frequently / Awake constantly
Postoperative Pain Score	assesses postoperative pain in infants ages 1 to 7 months A total score of 0 indicates worst pain, a score of 20, no pain 10 categories (sleep, facial expression, quality of cry, spontaneous motor activity, spontaneous excitability, flexion of fingers and toes, tone, consolability, and sociability) on a scale of 0 to 2
Neonatal Infant Pain Scale	Used to assess infants at an average gestational age of 33.5 weeks A final score of 0 identifies no pain while a score of 7 identifies worst pain Facial expression 0 Relaxed muscles 1 Grimace Cry 0 No cry 1 Whimper 2 Vigorous cry Breathing pattern 0 Relaxed 1 Change in breathing Arms 0 Relaxed 1 Restrained Legs 0 Relaxed 1 Restrained State of arousal 0 Asleep/awake 1 Fussy
Pain Assessment Tool	Pain Assessment Tool (PAT) assesses pain from a gestational age of 27 weeks to full term A final score of 4 identifies no pain, while a score of 20 identifies worst pain Posture/Tone: Normal/Relaxed 0; Extended 1; Flexed and/or Tense 2 Sleep Pattern: Relaxed 0; Easily Woken 1; Agitated or Withdrawn 2 Expression: Normal/Relaxed 0; Frown 1; Grimace 2 Cry: No 0; Yes, Consolable 1; Yes 2 Colour: Pink/Normal 0; Occasionally mottled/pale 1; Pale/Dusky/Flushed 2 Respirations: Normal baseline rate 0; Tachypnoea 1; Apnoea/Splinting 2 Heart Rate: Normal baseline rate 0; Tachycardia 1; Fluctuating 2 Oxygen Saturation: Normal 0; Fleeting desaturation 1; Desaturating 2 Blood Pressure: Normal 0; Fluctuates with Handling 1; Hypotensive/Hypertensive 2 Nurses Perception: No Pain 0; Pain with Handling 1; Yes Pain 2
Pain Rating Scale	The Pain Rating Scale (PRS) assesses pain for infants ages 1 to 36 months. **0** - smiling, sleeping, and no change when moved or touched

	1 - taking small amounts orally, restlessness, moving, and crying **2** - behaviors of not eating or drinking and short periods of crying but distracted with rocking or use of pacifier. **3** -irritable with facial grimacing and arms and/or legs shake or have jerking movements. **4 -** the baby is inconsolable, flailing with a high-pitched wailing cry **5** - prolonged sleep periods interrupted by jerking movements, continuous crying, and shallow respirations
Premature Infant Pain Profile (PIPP) [65]	Assesses pain for gestational ages 28 to 40 weeks Grades seven categories on a scale of 0 (no pain) to 3 (worst pain) A final score of 0 identifies no pain, while a score of 21 identifies worst pain Proforma for Premature Infant Pain Profile Assessment Hospital identity number: Age: Intervention: Sex: Date: Score:  Facial expression of physical distress and pain in the infant
Modified Behavioral Pain Scale	assesses pain for children ages 4 to 6 months A final score of 0 identifies no pain, while a score of 10 identifies worst pain
Behavioral Pain Assessment Scales for Children	
Objective Pain Score	infants and children from ages 4 months to 18 years Categories: blood pressure, crying, moving, agitation, and verbal evaluation/body language final score of 0 identifies no pain, and a score of 10 identifies worst pain
[66]	Assesses pain for children ages 1 to 5 years.

Process	Indicator	0	1	2	3	Score
Chart	Gestational Age (at that time)	≥ 36 wks	32 ≤ age < 36	28 ≤ wks < 32	< 28 wks	
Observe Infant 15 seconds Heart rate: Oxygen Saturation:	Behavioural state	Active/Awake Eye open Facial movements Crying with eyes open/closed	Quiet/awake Eyes open No facial movements	Active/sleep Eyes closed Facial movements	Quiet/sleep Eyes closed No facial movements	
Observe infant 30 seconds	Heart rate Max:	0 – 4 beats/ min increase	5 - 14 beats/ min increase	15 - 24 beats/ min increase	25 beats/ min or more increase	
	Oxygen saturation Min:	0% - 2.4% decrease	2.5% - 4.9% decrease	5% - 7.4% decrease	7.5% or more decrease	
	Brow bulge	None 0% - 9% of time(<3sec)	Minimum 10% - 39% of time(>=3 to <12 sec)	Moderate 40% - 69% of time(>=12 to <21)	Maximum 70% of time or more(>=21 sec or more)	
	Eye squeeze	None 0% - 9% of time(<3 sec)	Minimum 10% - 39% of time(>=3 to <12 sec)	Moderate 40% - 69% of time(>=12 to <21 sec)	Maximum 70% of time or more(>=21 sec or more)	
	Nasolabial furrow	None 0% - 9% of time(<3sec)	Minimum 10% - 39% of time(>=3 to <12 sec)	Moderate 40% - 69% of time(>=12 to 21 sec)	Maximum 70% of time or more(>=21 sec or more)	

Observed behavior	Score (0-10)	Operational definitions
Facial expression		
Definite positive expression.	0	Smiling.
Neutral expression.	1	
Slightly negative expression: for example grimace.	2	Brow bulge, naso-labial furrow.
Definite negative expression: i.e. furrowed brows, eyes closed tightly	3	Brow bulge, naso-labial furrow, eyes closed tight, open lips with or without reddened face.
Cry		
Laughing or giggling.	0	
Not crying.	1	
Moaning, quiet vocalizing, gentle or whimpering cry.	2	
Full lunged cry or sobbing.	3	
Full lunged cry, more than baseline cry.	4	To be scored only if infant is crying during baseline.
Movements		
Usual movements/activity, or resting/relaxed.	0	
Partial movement or attempt to avoid pain by withdrawing the limb where the puncture is done.	2	Squirming, arching, limb tensing/clenching.
Agitation with complex movements involving the head, torso or the other limbs, or rigidity.	3	Generalized limb and/or body movements, or rigidity.

Children's Hospital of Eastern Ontario Pain Scale	A final score of 4 identifies no pain, while a score of 13 identifies worst pain
Nurses Assessment of Pain Inventory	For infants and children from birth to age 16 years A final score of 0 identifies no pain, while the higher score identifies the worst pain Body movement (0-2) Facial (0-3) Touching (0-2)
Behavioral Pain Score	children ages 3 to 36 months Facial expression (0 to 2) Cry (0 to 3) Movements (0 to 3). A final score of 0 identifies no pain, while a score of 8 identifies worst pain
Riley Infant Pain Scale [67]	Younger than 36 months and children with cerebral palsy
[68] FLACC Postoperative Pain Tool/ 30 minutes	FLACC Postoperative Pain Tool assesses pain for children ages 2 months to 7 years A final score of 0 indicates no pain,while a score of 10 indicates worst pain.
Behavioral Pain Assessment Scales for Older Adults	
Pain Assessment in Advanced Dementia Scale	Can be used to assess pain levels in patients with advanced dementia The higher the score, the greater the pain.

Riley Infant Pain Scale					
SCORE	FACIAL EXPRESSION	SLEEP	MOVEMENTS	CRY	TOUCH
0	Neutral Smiling, calm	Sleeping quietly	Moves easily	None	
1	Frowning Grimaces	Restless	Restless body movements	Whimpering	Winces with touch
2	Clenched teeth	Intermittent	Moderate agitation	Crying	Cries with touch Difficult to console
3	Crying expression	Prolonged with periods of jerking or no sleep	Thrashing flailing	Screaming, highpitched	Screams when touched Inconsolable

FLACC Score			
CATEGORY	0 POINTS	1 POINT	2 POINTS
Face	Disinterested	Occasional grimace, withdrawn	Frequent frown, clenched jaw
Legs	No position or relaxed	Uneasy, restless, tense	Kicking or legs drawn up
Activity	Normal position	Squirming, tense	Arched, rigid, or jerking
Cry	No crying	Moans or whimpers	Constant crying, screams or sobs
Consolability	Content, relaxed	Distractible	Inconsolable
SCORES ADD UP IN RANGE FROM 0–10			

Pain Assessment in Advanced Dementia (PAINAD) SCALE			
Criteria	Score 0	Score 1	Score 2
Breathing (independent of vocalization)	Normal	Occasional labored breathing, short period of hyperventilation	Noisy labored breathing. Long period of hyperventilation. Cheyne-stokes respirations
Negative Vocalization	None	Occasional moan or groan. Low level of speech with a negative or disapproving quality	Repeated troubled calling out. Loud moaning or groaning. Crying
Facial Expression	Smiling or inexpressive	Sad, frightened, frown	Facial grimacing
Body Language	Relaxed	Tense, distressed pacing. Fidgeting	Rigid. Fists clenched. Knees pulled up. Pulling or pushing away. Striking out
Consolability	No need to console	Distracted or reassured by voice or touch	Unable to console, distract or reassure

REASSESSMENT OF PAIN

Reassessment of pain is imperative to determine the effectiveness of treatment

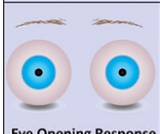
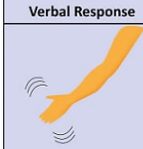
Current recommendations for pain reassessment include:

- Within [68] 1 hour minutes after parenteral administration of pain medication.

- Within [69] _____ hour after oral administration of pain medication.
- After every report of new or changes in pain.

MENTAL STATUS AND COGNITIVE FUNCTION

Level of Consciousness	
[70]Arousal Awake, alert, and oriented to time, place , and person (AAOX3) .	a state of physiological and psychological activation, ranging from deep sleep to intense alertness, involving increased heart rate, blood pressure, and responsiveness to stimuli, driven by brain systems like the reticular activating system. ***Types of Stimulus:*** Auditory and Tactile Stimuli - If awake, ask what she's doing. - If asleep, call her or him by name in a normal tone of voice. - If she or he does not respond, speak louder. If auditory stimuli fail, try tactile. - Gently touch the patient's hand. If she or he does not respond, gently shake her or his shoulder. Painful Stimuli - If your patient does not respond to tactile stimuli - Allowed (central) o Trapezius squeeze, o Sternal rub o Supraorbital pressure o Mandibular pressure - Allowed (Peripheral) o Nail pressure o Achilles tendon squeeze - DONTs! o Nipple Twist o Never use a needle **TERMS USED TO DESCRIBE LOC** [71] Alert - Follows commands in a timely fashion [72] Lethargic – Appears drowsy, may drift off to sleep during examination. [73] Stuporous – Requires vigorous stimulation (shaking, shouting) for a response [74] Comatose - Does not respond appropriately to either verbal or painful stimuli [75]Glasgow Coma Scale Provides a more objective way to assess the patient's LOC - scale of 3 to 15. Fifteen (highest score)

Behaviour	Response
 Eye Opening Response	4. Spontaneously 3. To speech 2. To pain 1. No response
 Verbal Response	5. Oriented to time, person and place 4. Confused 3. Inappropriate words 2. Incomprehensible sounds 1. No response
 Motor Response	6. Obeys command 5. Moves to localised pain 4. Flex to withdraw from pain 3. Abnormal flexion 2. Abnormal extension 1. No response

[76] Orientation	Test orientation to time, place, and person Avoid asking questions that require only a "yes" or "no" response Time - Ask the patient to state the date, including the year and day of the week. Place - Ask your patient to state where he or she is. Can he or she identify environmental cues (e.g., bed, equipment, sound of bells or buzzers) to determine location? Person - Ask the patient to state her or his name. Self-identity usually remains intact the longest, making disorientation to person an ominous sign.
[77] Mental Status and Cognitive Function	Level of awareness reflects mental status and cognitive function. It is the functional state of the mind as judged by a person's behavior, appearance, response to stimuli, speech, memory, and judgment. Reflect the cerebral cortex's ability to process and respond. You will need to perform a rigorous mental status examination in the following situations: - If data from patient or patient behavior during the health history interview suggests an abnormality. - If family members or caregivers report changes in the patient's personality or behavior. - If the patient has a history of head injury, stroke, dysphasia or aphasia,or mental illness.
	Memory - Assess immediate, recent, and remote memory. *[78]* Immediate - asking your patient to repeat a series of numbers *[79]* Recent Memory - asking what the patient had for breakfast or by asking her or him to name three objects—for example, a pen, a tree, and a ball—and then asking her or him to recall them later. *[80]* Remote memory- ask birth dates or anniversary dates if someone can validate the information; if not, ask dates of major historical events.
	General Knowledge and Vocabulary Nursing consideration: developmental level, educational level, and cultural background *General Knowledge* - ask about current events, the name of the president, number of months in a year or days in a week *Vocabulary - ask the patient to define words*
	Mathematical and Calculative Skills Have your patient solve a simple math problem Example: Counting backward from 100 by 7s
	Thought Process/Abstract Reasoning/Judgment *Thought process* examine the appropriateness, organization, and content of your patient's responses throughout the entire assessment *Abstract Reasoning* Asking your patient to explain a simple proverb, such as "People in glass houses shouldn't throw stones."

	Note the degree of concreteness or abstractness of her or his interpretation. *Sound Judgment* Considering options and choosing appropriate actions. Assess your patient's judgment by observing his or her response to the current situation or by giving him or her a hypothetical situation.

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