

- **Factors Affecting Body Temperature**

- Age
 - i. childrens body temps vary more
 - ii. older adults (>75) are at risk for hypothermia (temp< 96.8)
 - loss of subcutaneous fat, inadequate diet, lack of activity, reduced thermoregulatory efficiency
 - they are also more sensitive to environmental extremes
- Diurnal Variations (circadian rhythms)
 - i. highest body temp is usually between 4-6 PM, lowest point = 4-6 AM
- Exercise
 - i. Can increase body temp
- Hormones
 - i. Women fluctuate more than men
 - ie: progesterone surge at ovulation -> increased body temp
- Stress
 - i. increases epinephrine and norepinephrine release -> increased metabolic activity and heat production
- Environment
 - i. environmental extremes can affect a person's thermoregulatory system
- Oral Intake
 - i. drinking cold water or warm tea

- **Alterations in Body Temperature**

- 2 primary alterations: pyrexia and hypothermia

- i. **Pyrexia - above usual range**

- very high: 41C or 105.8 F = hyperpyrexia/hyperthermia
 - person as a fever= febrile
 - person with no fever= afebrile

- ii. **Nursing Interventions for Fever**

- Monitor vitals
 - Assess skin color and temp
 - Monitor WBC and RBC and other lab data to look for infection or dehydration
 - remove excess blankets when pt feels warm, but provide warmth when pt feels chilled
 - provide adequate nutrition and fluids
 - measure intake and output
 - reduce physical activity, especially during flush stage administer antipyretics as ordered

- Exercise
 - i. more is shape, slower pulse at rest
- Fever
 - i. pulse increases with fever bc of vasodilation and increased metabolic activity
- Medication
 - i. cardiotonics- decrease; epinephrine- increase
- Hypovolemia/dehydration
 - i. loss of blood/ blood volume decreases -> increase pulse
- Stress
 - i. increase pulse
- Position
 - i. Sitting or standing reduction in BP and increase in HR
- Pathology
 - i. can alter pulse
- **Pulse Sites**
 - Temporal - superior and lateral to eye
 - Apical, apex of heart- left side of the sternum at 4th intercostal space; 0-4 midclavicular line; 4-6 left of midclavicular line; child 7-9 @ 4-5 intercostal space
 - Brachial- inner or medial aspect of brachial muscle
 - Radial- thumb side of inner aspect of wrist EASIEST
 - Femoral- femoral along side inguinal ligament
 - Popliteal- passes behind knee
 - Posterior tibial- medial surface of ankle
 - Dorsalis pedis- middle of ankle to space between big and second two
- **Assessing Pulse 551-557**
 - palpation and auscultation
 - use three finger tips; except with apical pulse- use stethoscope
 - Doppler ultrasound scope- for difficult to find pulses
 - If pt has been exercising , make them wait 10-15 minutes
 - be aware of meds that could affect heart rate
 - be aware of baseline data and if pt needs to assume a more ideal position
 - >100 beats/minute= tachycardia
 - <60 beats/minute bradycardia
 - pulse rhythm- pattern of beats and intervals between them; should be equal time lapses in normal pulse
 - i. dysrhythmia or arrhythmia- random irregular beats/minute or regular patterns of irregularity -> ECG

- Respiratory rhythm- regularity of inspiration and expirations, normally evenly spaced, though, infants may be less regular than adults
- respiratory quality or character- aspects of breathing that are different from normal effortless breathing
 - i. difficulty to breath (i.e. labored breathing)
 - ii. sounds of breathing (i.e. wheezing)
 - iii. the efficiency of gas exchange (i.e. the amount of hemoglobin in blood saturated with oxygen)- can be measured with pulse oximeter
 - minimum 90

- **Assessing Respirations**

- Respirations
 - i. act of breathing
- Technique
 - i. inspection and auscultation
 - ii. Be aware of
 - Baseline breathing pattern
 - Influence of health problems on respiration
 - Meds that might affect respiration
 - Relationship of respirations to CV function

- **Blood Pressure**

- arterial blood pressure
 - i. a measure of the pressure exerted by the blood as it flows through the arteries
 - ii. measured in millimeters of mercury (mmHG) and recorded as systolic/diastolic
 - iii. normal 120/80 mmHg and pulse pressure = 40; considerable personal variation
 - systolic - the pressure of blood as a result of contraction of the ventricles, that is, the pressure of the height of the blood wave
 - diastolic - pressure when ventricles are at rest
 - difference between the two = pulse pressure
 - normal is about 40 mmhg but can reach as high as 100 mmhg during exercise
 - iv. arteriosclerosis (hardening of arteries) = elevated pulse pressure
 - v. mean arterial pressure (MAP)- pressure actually delivered to body's organs
 - add $\frac{2}{3}$ of diastolic pressure to $\frac{1}{3}$ of the systolic pressure
 - normal = 70-110 mmHG

- **Determinants of BP**

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- ii. increase environmental heat-> vasodilation-> decrease BP
- iii. decrease environmental heat-> vasoconstriction-> increase BP

- Error in BP Assessment

- Bladder cuff too narrow, arm unsupported, insufficient rest before assessment, cuff wrapped too loosely or unevenly, assessing immediately after a meal, while pt is in pain or while pt smokes -> erroneously high
- bladder cuff too wide, failure to identify auscultatory gap, or arm above level of heart -> erroneously low
- repeating assessment too quickly -> super high systolic or low diastolic
- deflating cuff too quickly -> super low systolic or high diastolic
- super high diastolic -> deflating cuff too slowly

- Hypertension

- blood pressure **persistently** above normal
- 140/90 mmHG or greater
 - i. 140-159 and 90-99: hypertension stage 1
 - ii. >160 and > 100: hypertension stage 2
- must have high reading at least twice, at different times
- primary hypertension
 - i. elevated pressure of unknown cause
- secondary hypertension
 - i. elevated pressure of known cause
- prehypertensive and at risk of cardiac disease
 - i. diastolic: 80-89 mmHG
 - ii. systolic: 120-139 mmHG
- factors associated with hypertension
 - i. thickening of arterial walls and inelasticity of lumen
- lifestyle factors
 - i. cigarette smoking, obesity, heavy alcohol consumption, lack of physical exercise, high blood cholesterol, continued exposure to stress
- older adults have to get their high blood pressure to a goal of at less than 150/90
- adults 30-59 have to get their high blood pressure to a goal of at less than 150/89 or less

- Hypotension

- blood pressure that is below normal: systolic reading consistently between 85-110 mmHG (normal BP is usually above this)
- **orthostatic hypertension**
 - i. blood pressure that decreases when client sits or stands
 - ii. when assessing for this:
 - place pt in supine position for 10 minutes

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may require a physician's orders and may be in response to both medical and nursing diagnoses) or **dependent**

- **independent- nurse orders bedside toilet to put by pts bed**
- **collaborative - get PT into help her**
- **dependent- need physician to order oxygen**
- NIC's in text as well and evolve.com- standard language of interventions
- direct care- thinks you can do to care for pt
- indirect care - things someone else did; pt; physician
- Evidence- Based Interventions
 - evidence based practice- help determine the best way of giving care
 - nurse must always use critical thinking when applying EBN guidelines to any particular nursing situation
 - Each client is unique in his or her needs and capabilities
 - final phase- documenting the actual care plan, including prioritized nursing diagnostic statements, outcomes, and interventions
 - electronic or writing

○ Implementation

- actual initiation of nursing care plan
- actual interventions performed (affirm that they are appropriate for the client and effective)
- reassess pt, review and revise the care plan
- organize resources and care delivery
- anticipate and prevent complications; implement plan
- nurses often delegate tasks, supervise staff, and document client's responses
- take nursing diagnosis handbook w/ you to clinicals

○ Evaluation

- collect data/ interpret findings
- last phase of nursing process, but is actually an integral part of each phase and is something a nurse does continually
- Evaluate based on SMART; was ND correct?/ revise care plan
- Remember to document

Critical Thinking and Clinical Judgement

- Nurses must have multiple critical thinking skills

- ability to interact successfully with people and within the environment of which each person is a part
 - develop and maintain intimacy with SO's
 - develop respect and tolerance for people with different beliefs
- Emotional
 - ability to manage stress and express emotions appropriately
 - ability to recognize, accept, and express feelings and to accept one's limitations
- Physical
 - ability to carry out ADL's, achieve fitness, maintain adequate nutrition and proper body fat, avoid using drugs, tobacco, and alcohol, and generally practice positive lifestyle habits
- Spiritual
 - belief in some force (nature, science, religion, higher power) that serves to unite humans and provide meaning and purpose to life
 - includes personal morals ethics and values
- Intellectual
 - ability to learn and use info effectively for personal, family, and career development.
 - striving for continued growth. Learning to deal with new challenges effectively
- Occupational
 - obtain balance between work and leisure time
 - beliefs about education, employment, home influence on personal satisfaction, and relationships with others
- Lots of overlap
- Well-being is subjective
- Nurses need to clarify their understanding of well being because health beliefs influence health behavior and nursing definitions largely determine nurses scope and nature of practice
- Variables that influence Health Status (267-268)
 - Internal
 - Biologic dimension
 - genetic makeup, sex, age, and developmental level
 - Psychological dimension
 - mind body interactions: negative physiological responses to emotional stress
 - biofeedback, relaxation techniques, and mediation are often used to counteract/ treat stress, anxiety, pain, illness, etc

- slow onset; periods of Remission (when symptoms disappear) and periods of Exacerbation (when symptoms reappear)

Patient Safety

- **What is Safety?**
 - Safety is “freedom from accidental injury”
 - Error is “failure of a planned action to be completed as intended or the use of wrong plan to achieve an aim”
- **Need to Improve Patient Safety**
 - The Joint Commission (TJC)
 - NPSG’s
 - Analyze the system to figure out where error was made
 - Focus on system-wide solutions
- **Utilize risk assessment tools**
 - Fall Risk Assessment
 - Home Hazard Appraisal
- **2015 NPSG’s**
 - Identify patient correctly
 - Improve staff communication
 - Use medicines safely
 - Prevent infections
 - Check patient medications
 - Identify patient safety risks (suicide)
- **FALL PREVENTION**
 - National Patient Safety Goal from 2010
 - Reduce the risk of patient harm resulting from falls
 - Implement a fall reduction program and evaluate the effectiveness of the program

- Independent ambulation contraindicated due to medical condition
- Unable to follow instructions
- At high risk for injury
- Fall risk is NOT an indication for restraint
- **Assessing Patient Safety**
 - Follow hospital policy/protocol
 - Flow sheets to document assessment while in restraints
 - Safety, circulation for limb restraints, skin condition, respiratory rate, and behavior
 - Hydration, meals, toileting, and position changes including ROM are offered
- **Proper Application of Restraint**
 - Follow manufacturer's recommendations - If you don't know ASK
 - Attach restraint ties to bed frame, never to side rail of bed
 - Use quick release knot
 - Adapt restraint to patient's size and identified need
 - Do not impede circulation with wrist or ankle restraint
- **Risks of Medical Restraints**
 - CV changes
 - Respiratory conditions
 - Bowel/bladder function
 - Mental changes
 - Airway obstruction – risk for aspiration
 - Physical injury
 - Emergency (fire)
- **Hospital and Community safety**
 - Environmental Factors
 - Affecting Safety
 - Home
 - Workplace
 - Community
 - Health Care Setting
 - Terrorism and Bioterrorism
- **Workplace Factors**

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