**Factors Affecting Body Temperature**

- **Age**
  - i. children's 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: 41°C 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 be 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 6th 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
  - 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 or 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 respirations
      ● 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 ⅓ of diastolic pressure to ⅕ of the systolic pressure
      ● normal = 70-110 mmHG

● Determinants of BP
ii. increase environmental heat—> vasodilation—> decrease BP
iii. decrease environmental heat—> vasoconstriction—> increase BP

- Error in BP Assessment
  - Bladder cuff to 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 to quickly- > super low systolic or high diastolic
  - super high diastolic - > deflating cuff to 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
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 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

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**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 information 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 systemic versus 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