NMNEC Concept: **Elimination**

**Mega-Concept:** Health and Illness

**Category:** Homeostasis and Regulation

**Concept Name:** Elimination

**Concept Definition:**
Factors and conditions that influence the removal of waste through the gastrointestinal and urinary systems.

**Scope and Categories:**
- **Scope:** Gastrointestinal and urinary elimination ranging from normal function to dysfunction or a disease process that impairs/alters elimination.

- **Categories:**
  - Control-Issues that affect elimination control:
    - Developmental
    - Cognition
    - Maturation
  - Retention-Issues that affect retention:
    - Maturation
    - Physiologic
  - Discomfort:
    - Psychological factors
    - Physical disorders (infection, obstruction or retention)

**Risk Factors:**
Concept relates to all persons, regardless of age, gender or race.

**Populations at Risk:**
- Youth: normal physical and emotional development. Enuresis
- Adult: Pregnancy related elimination alterations, both urinary and bowel
NMNEC Concept: **Elimination**

- Elderly: Decreased motility, dehydration, and increased risk of obstruction and loss of control

**Individual Risk Factors:**
- Altered mobility: Mobility or immobility affects the physiologic function of the gastrointestinal tract. In addition immobility can result in loss of control of elimination.
- Cognitive impairment: Disorders, such as dementia or injury, that prevent the patient from recognition of the need to eliminate.
- Developmental stage: Beginning and ending of life issues such as immature maturation, immature cognition, and loss of functional ability.
- Immunological impairment or infection: Disorders concerned with autoimmune function or infections.
- Medical Conditions general and specific to the gastrointestinal or urologic systems.
- Trauma to neurologic or musculoskeletal system that interferes with continence.
- Stress and anxiety can result in retention, frequency, or incontinence.
- Hypoperfusion states resulting in decreased renal function and necrosis of bowel.
- Medications or other substances can affect elimination function

**Physiological Processes:**
- Normal urinary elimination: renal function is glomerular filtration, renal perfusion, and hydration.
- Normal bowel elimination: intact GI system, peristalsis, nutrition, hydration, and normal flora.
- Urinary and bowel control: intact cognition, neuromuscular function, developmental and maturational factors.

**Pathophysiological Processes and Consequences:**
- Urinary incontinence: stress incontinence, skin breakdown.
- Bowel incontinence: skin breakdown, social isolation
- Inflammatory bowel disease
- Urinary retention: discomfort, infection, renal lithiasis, obstructive renal failure
- Bowel retention: Constipation, laxative abuse, impaction, bowel obstruction, ileus, hemorrhoids, discomfort
- Bowel perforation if constipation is not addressed
Urinary tract infection (UTI)

Assessment/Attributes:

Subjective:
- History, including specific GI or urinary health conditions: frequency of infections, changes of patterns
- Medication history
- Nutritional and diet assessment
- Recent changes in health status
- Level of cognition: dementia
- Problems with continence (urine or stool): change in control.
- Pain: abdominal pain, costovertebral angle pain, flank pain, dysuria, painful urination or passage of stool
- Mobility: musculoskeletal dysfunction, sedentary lifestyle.
- Psychosocial: anxiety, stress
- Cultural influences: hygiene practices, accessible toileting, privacy

Objective:
- Physical assessment
  - Appearance of stool and urine
  - Bladder distention
  - Appearance of perirectal area
  - Surgical diversions
  - Abdominal distention
  - Bowel sounds

Diagnostic Tests:
- Lab tests: Renal function, BUN, creatinine, creatinine clearance, electrolytes, urinalysis, urine or stool cultures, occult blood (stool), ova and parasites, fat content of stool.
- Biopsy: rectum, colon, bladder or kidney
- Radiographic scans/x-rays/ultrasound: nuclear medicine, KUB, IVP, MRI, CT scan with and without contrast.
- Direct observation: colonoscopy, sigmoidoscopy, cystoscopy, uroscopy
NMNEC Concept: **Elimination**

- Special tests: Bladder stress testing, urine flow studies, post-void residual, urodynamics, bladder scan

**Clinical Management - Interdisciplinary:**

**Primary:**
- Education promoting healthy bowel and bladder function
  - High fiber, low fat diet
  - Adequate fluids
  - Regular physical activity
  - Caffeine limitations
  - Tobacco cessation

**Secondary:**
- Screening: routine occult blood and colonoscopy.
  - Genetic screening: celiac disease
  - Prostate hypertrophy

**Tertiary:**
- Altered Urinary/Bowel Elimination: Risk for Impaired Skin Integrity
- Pharmacologic Treatment: anti-infectives, anticholinergics, diuretics, laxatives, antidiarrheal, probiotics, analgesics
- Incontinence Management: condom catheters, incontinent products, bowel and bladder training
- Invasive procedures: intermittent or continuous catheterization, rectal tubes
- Surgical procedures: diversions, prostatectomies, colporrhaphy

**Interrelated Concepts:**
- Nutrition: High fiber and low fat promotes healthy bowel activity
- Fluids and Electrolytes: Diarrhea and overuse of diuretics results in loss of fluid and electrolytes
- Development: Control of bowel and bladder
- Mobility: Activity stimulates peristaltic activity which promotes bowel elimination
- Acid Base:
  - Diarrhea
  - Vomiting
NMNEC Concept: Elimination

- Renal failure
- Infection: Urinary tract infection (UTI)
- Inflammation: Related to infectious processes

Exemplars:

New Mexico Nursing Education Consortium (NMNEC) Required Exemplars:
- Bladder Incontinence/Retention
- Bowel Incontinence/Retention
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**Resources:**


