



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



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- 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 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



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- 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



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- Special tests: Bladder stress testing, urine flow studies, post-void residual, urodynamic, 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



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- 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:

Gallagher, D.L. and Harding, M.M. (2016). Lower Gastrointestinal Problems. In S. Lewis, et. al. (Eds.), *Medical-surgical nursing: assessment and management of clinical problems* (10th ed.). Elsevier.

McKenzie, C. (2017). Elimination. In J. F. Giddens (Ed.), *Concepts for nursing practice* (2ND ed.) (pp. 156-166). Mosby/Elsevier.

National Institute of Diabetes and Digestive and Kidney Diseases. (2019). Digestive diseases. Retrieved from <https://www.niddk.nih.gov/health-information/digestive-diseases?dkrd=lgdmn0027>

National Institute of Diabetes and Digestive and Kidney Diseases. (2019). Kidney Disease. Retrieved from <https://www.niddk.nih.gov/health-information/kidney-disease?dkrd=lgdmn0029>

Parsell, S.T. (2016). Renal and Urologic Problems. In S. Lewis, et. al. (Eds.), *Medical-surgical nursing: assessment and management of clinical problems* (10th ed.), Elsevier.