Optimal use of Process Guideline for Maintaining Hydration and Electrolyte Balance

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Disorders of fluid/electrolyte balance

- Definition:
  - Insufficiency or excess of either water or electrolytes – sodium and potassium – in certain body areas
- Dehydration most common disorder –
  - Definition: the loss of body water that causes significant signs and symptoms, including physiological and/or functional decline from the individual's baseline

Hydration and Electrolyte Imbalance

- Physiologic normal changes with aging
  - Decreased
    - Sense of smell
    - Thirst drive
    - Concentration of urine/ urine acidification = increased risk of UTIs and dehydration
    - Less able to decrease urine flow in response to water deprivation
    - Absorption of vitamins
    - Calorie intake/metabolic rate/physical activity

Hydration and Electrolyte Imbalance

- Physiologic normal changes with aging
  - Gums recede – increase risk of tooth decay
  - Chews food less efficiently
  - Impaired relaxation of stomach – difficulty accepting food bolus
  - Slowed transit in large intestine – increase risk constipation

Hydration and Electrolyte Imbalance

- Changes under stress/disease in the elderly
  - Impaired cell response to external stimuli
    - Decreased immune response
  - Use physiologic reserves just to maintain baseline homeostasis
  - Skin thinner
  - Mucous membranes less effective
  - Impaired thermal regulation

Hydration and Electrolyte Imbalance – Issues in LTC

- Residents with multiple medications
- Residents with multiple illnesses:
  - dysphagia/physical deficits, i.e. tremors
  - cognitive impairment/impaired vision
- Elderly with atypical presentation of disease
- Dehydration under-recognized and under-treated

Hydration and Electrolyte Imbalance – Issues in LTC

- General causes of dehydration:
  - Excess loss of water
  - Failure to recognize the need to increase water intake
  - Impaired water ingestion

Hydration and Electrolyte Imbalance – Issues in LTC

- Dietary factors
  - Restricted diets (salt, sugar, fat, calories)
  - Fluid restriction (diuretics)
- Social factors
  - Smells, Noise, Room Temperature
  - Company
  - Resident Positioning
  - Culture/food preferences/language barriers

Hydration and Electrolyte Imbalance – Issues in LTC

- Difficult families
- “Slow” eaters
- Restricted diets
- End-of-Life issues
  - Anorexia expected
  - PEG – may not make a difference
  - Define goals of care
  - Document well

Hydration and Electrolyte Imbalance – Issues in LTC

- Identifying hydration status
  - Exam – skin turgor, mucous membranes, sunken eyes
  - Physical exam not enough to diagnose
  - Labs – BUN, Cr, electrolytes, Hgb, Ca, serum osmolality, urine sodium, UA
- Consider impaired hydration in lethargy, falls, anorexia, etc.

Hydration and Electrolyte Imbalance – Issues in LTC

- Identifying hydration status
  - Monitor food or fluid intake
  - Level of consciousness
  - Mental status
  - Urine output
  - Body weight (esp. if rapid or abrupt changes)
  - Chronic comorbidities

Hydration and Electrolyte Imbalance – Issues in LTC

- Identifying residents at risk
  - Nausea/vomiting/diarrhea
  - Medication use
    - Diuretics, ACE inhibitors
  - History of dehydration/electrolyte imbalance
  - Anorexia
  - Cognitively impaired resident/Depression
  - Recently hospitalization
  - Wounds/Infections

Hydration and Electrolyte Imbalance – Issues in LTC

- Evaluating
  - Physician or extender must be involved
    - Examine resident
    - Order labs, tests as appropriate
    - Document why didn't work up if did not
    - Medication review
    - Clinically pertinent basis for conclusions
  - Know goals of care, individualized

Hydration and Electrolyte Imbalance – Issues in LTC

- AMDA Clinical Practice Guidelines
  - Dehydration and Fluid Maintenance Clinical Practice Guideline
  - Essential to have a copy at facility and medical directors familiar with it
  - Process guidelines based on this

Process Guideline for Maintaining Hydration and Electrolyte Balance

- Recognition/Assessment
  - Did the staff review and define the individual's hydration status?
    - Use consistent protocol
    - Systematic approach is most important with information analyzed and addressed consistently
    - If at risk, get rest of pertinent history – change in intake, mental status, urine output, weight (1 liter of fluid=1 kg = 2.2 pounds)
    - I&O

Process Guideline for Maintaining Hydration and Electrolyte Balance

- Recognition/Assessment
  - Did the staff review and/or practitioner identify existing fluid and electrolyte imbalance?
    - Signs may be nonspecific, differentiate from other events: i.e. adverse drug reaction, infection
    - Notify physician within 24 hours – may need testing STAT

Process Guideline for Maintaining Hydration and Electrolyte Balance

- Recognition/Assessment
  - Did the staff review and/or practitioner identify existing fluid and electrolyte imbalance?
    - Clarify type of imbalance
      - Primarily fluid deficit – more water than salt lost
      - Primarily sodium deficit- more salt than water lost
      - Combined water and sodium deficit-both water and salt lost equally
      - Excess water retention or intake – water retained inappropriately
      - Excess water and salt retention – both water and salt retained inappropriately

Process Guideline for Maintaining Hydration and Electrolyte Balance

- Recognition/Assessment
  - Did the staff review and/or practitioner identify risk factors for developing fluid and electrolyte imbalance?
- Identify risk for subsequent fluid and electrolyte imbalance (i.e. impaired ability to take adequate fluids without assistance, acute illness, meds, etc.) ID significant hydration risks, even if not currently intake impaired.
- Example: N/V/D, fever, pain with eating, cognitive or functional impairment, depression, swallowing difficulties
- Risk factors temporary or permanent
- Document if risk factors not addressed

Process Guideline for Maintaining Hydration and Electrolyte Balance

- Recognition/Assessment
  - Monitor for change in mood, behavior, level of consciousness that may affect fluid intake
  - Monitor for meds, new illnesses, edema/fluid shifts that may affect hydration: change taste, GI upset, etc.
  - Watch level of activity
  - Environmental factors

Process Guideline for Maintaining Hydration and Electrolyte Balance

- Diagnosis/Cause Identification
  - Did the staff and/or practitioner evaluate likely causes of fluid and electrolyte imbalance?
  - Clarify type of imbalance
  - Inadequate intake (dysphagia, dementia, delirium)
  - Excessive loss (diarrhea, fever, diuretics)
  - Impairment of the body's ability to balance and manage fluids and electrolytes (e.g., renal failure, heart failure, CVA, meds, etc.)
  - Combination of above
- Recognize that you can fix some and not others

Process Guideline for Maintaining Hydration and Electrolyte Balance

- Diagnosis/Cause Identification
  - Did the staff and practitioner evaluate relevant information and provide a clinically pertinent basis for their conclusions?
    - Classify imbalance – help know urgency of interventions
      - Mild – Some deficits or abnormalities in lab values exist, but do not seriously impair the patient's circulation, organ function or level of functioning
        - Mild increase BUN in resident taking diuretic
        - Increased thirst in resident with diarrhea

Process Guideline for Maintaining Hydration and Electrolyte Balance

- Diagnosis/Cause Identification
  - Did the staff and practitioner evaluate relevant information and provide a clinically pertinent basis for their conclusions?
    - Classify imbalance – help know urgency of interventions
      - Moderate– Some deficits or abnormalities in lab values exist that may impair circulation but not immediately life threatening:
        - Mild lethargy or confusion with reduced intake, elevated sodium due to illness

Process Guideline for Maintaining Hydration and Electrolyte Balance

- Diagnosis/Cause Identification
  - Did the staff and practitioner evaluate relevant information and provide a clinically pertinent basis for their conclusions?
    - Classify imbalance – help know urgency of interventions
      - Severe– Deficits or abnormalities causing significant, life-threatening risks or problems with circulation, organ function or ADLs
        - BUN > 100, previously normal
        - Hypotensive

Process Guideline for Maintaining Hydration and Electrolyte Balance

- Diagnosis/Cause Identification
  - Did the staff and practitioner evaluate relevant information and provide a clinically pertinent basis for their conclusions?
    - Identify end-stage or untreatable conditions affecting fluid intake and hydration status
    - Document factors make it difficult or inappropriate to maintain or improve hydration balance
    - Practitioner must be involved

Process Guideline for Maintaining Hydration and Electrolyte Balance

- Diagnosis/Cause Identification
  - Document if dehydration expected or unavoidable
  - Document if altered hydration status secondary to underlying illness or primary nutritional problem
  - Demonstrate issues weren't overlooked

Process Guideline for Maintaining Hydration and Electrolyte Balance

- Treatment/Management
  - Did the staff provide or assist with necessary hydration?
    - Ensure hydration for all residents (at least 1500cc/day or documented individual need)
    - Address hydration issue in appropriate time frame
      - Or indicate why not addressed
    - Assist functionally impaired individuals
    - Diet restrictions, therapeutic diets and modified consistency diets may be unnecessary

Process Guideline for Maintaining Hydration and Electrolyte Balance

- Treatment/Management
  - Did the staff provide or assist with necessary hydration?
    - Provide interventions consistent with individual condition, needs, wishes, values, goals and prognosis
      - can't force fluids on resident refusing
      - Evaluate decisions for altering fluid consistency such as thickened liquids
      - Look at quality of life
  - Consistency

Process Guideline for Maintaining Hydration and Electrolyte Balance

- Treatment/Management
  - Did the staff and practitioner address underlying causes of fluid and electrolyte imbalance?
    - Treat medical conditions contributing to imbalance
    - Review medications
    - Evaluate feasibility of managing disease/risk
    - Address if resident should receive aggressive rehydration or medication changes and if not, why not

Process Guideline for Maintaining Hydration and Electrolyte Balance

- Monitoring
  - Did the staff and/or practitioner review and adjust interventions based on appropriate rationale?
    - Evaluate effectiveness of interventions, i.e. check labs follow-up, improvement in clinical exam
    - Monitor progression toward goals of care
    - Document why changes in treatment made or stopped
    - Subsequent changes will depend on progress, prognosis, etc.

Process Guideline for Maintaining Hydration and Electrolyte Balance

- Monitoring
  - Did the staff and/or practitioner monitor the subsequent course of impaired hydration or other significant fluid and electrolyte imbalance or risk?
    - Document ongoing monitoring of residents with previous episodes of and risk factors for fluid and electrolyte imbalance
      - CARE PLAN

Process Guideline for Maintaining Hydration and Electrolyte Balance

- Monitoring
  - Did the staff and/or practitioner monitor the subsequent course of impaired hydration or other significant fluid and electrolyte imbalance or risk?
    - Monitor for subsequent changes in food and fluid intake, consciousness, function, labs, etc., as well as adjustments of interventions
    - May need to follow labs
    - Understand future risk, plans for avoiding

Process Guideline for Maintaining Hydration and Electrolyte Balance

- In Summary
  - Make sure policies in line with clinical plan
  - Complete individual assessment initially with consistent tool and identify patients at risk
  - Check labs quickly and repeat as needed
  - Involve families early in recognizing cause, treatment plan, and possible outcomes
  - Evaluate for causes, medical and nonmedical
  - Practitioner involved, clinical basis for plan

Process Guideline for Maintaining Hydration and Electrolyte Balance

- In Summary
  - Know residents at risk
  - Practitioner Involvement and early diagnosis
  - Staff provide assistance
  - Medications
  - Treat underlying causes
  - Know goals of care
  - Monitor and document success of interventions
  - AMDA clinical practice guideline