

## Managing Hydration in Long-Term Care

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## Objectives

- Understand the importance of hydration
- Evaluate risk factors of dehydration
- Examine treatment options for dehydration
- Explore strategies to prevent dehydration



## Importance of Hydration

- Water = 60% of body weight in average adult
- Total body water = around 600 ml/kg
  - 155 pound person = 70kg
  - 42,000 ml water
  - 175 cups
  - 10.94 gallons

*That's a lot of liquid!*



## Importance of Hydration

- The primary goal of water is not just to satisfy thirst.
- Water is vital in keeping your body's cells, tissues, and organs running smoothly.



## Dehydration

- A complex condition resulting in a loss of total body water-with or without salt-at a rate greater than the body can replace it.
- Dehydration is one form of fluid/electrolyte imbalance. A fluid/electrolyte imbalance is defined as an insufficiency or excess of either water or electrolytes (sodium and potassium) in certain body areas.

American Medical Directors Association, Dehydration and Fluid Maintenance Clinical Practice Guideline, Columbia, MD: AMDA 2009



## Dehydration

- More simply, dehydration is a fluid imbalance caused by too little fluid taken in or too much lost, or both.
- How does this happen in long-term care?



## What Puts People at Risk for Dehydration?

- Fasting before tests and procedures
- Acute illness leading to vomiting and diarrhea
- No access to fluids throughout the day
- No desire to consume fluids
- Distaste of thickened liquids
- Decreased awareness of thirst
- Dietary restrictions
- Fear of incontinence



## What Puts People at Risk for Dehydration?

- Low air-flow specialty mattresses
- Medications
  - Diuretics
  - Laxatives
  - ACE inhibitors
  - Antidepressants
  - Vitamin D/calcium formulations
  - Caffeine formulations



## Risk Factors Associated with Dehydration

- |   |  |
|---|--|
| ■ Constipation                            | ■ Electrolyte imbalance                                  |
| ■ Falls                                   | ■ Seizures   |
| ■ Medication toxicity                     | ■ Hyperthermia   |
| ■ Urinary-tract infections                | ■ Longer time for wound healing                          |
| ■ Respiratory infections                  | ■ Increased mortality rates in hospitalized older adults |
| ■ Delirium                                |  |
| ■ Renal failure/decreased kidney function |  |



## Assessment

- Signs and symptoms
- Not reliably or consistently diagnostic
  - Weight loss
  - Hypotension
  - Tachycardia
  - Volume overload (edema, rales)
  - Elevated body temperature
- Postural dizziness
- Orthostatic hypotension
  - Educate staff of proper measurement technique



## Assessment

- Intake and output
  - Not reliable due to documentation accuracy
- Change in urine
  - Not always reliable
    - Odor
    - Color
    - Amount
    - Urine specific gravity



## Staff should watch for:

- Dry mouth, flushed skin, fatigue, headache
- Increased temp, breathing, and pulse rate
- Dizziness, weakness, and impaired breathing with activity
- Dark colored urine (apple juice)



## What is a reliable diagnostic method?

- Laboratory testing is the gold standard for diagnosing and managing dehydration

American Medical Directors Association, Dehydration and Fluid Maintenance Clinical Practice Guideline, Columbia, MD: AMDA 2009



## Prevention Strategies

- Assess swallowing ability
  - Offer straws and cups that make drinking easier
- Manage urinary incontinence so that resident is less likely to refuse drinking to prevent incontinence



## Prevention Strategies

- Communicate clinical changes effectively
  - Acute illnesses
- Promptly report changes in fluid intake and signs and symptoms of dehydration
  - Stop and Watch
  - Stand up meetings



## Prevention Strategies

- Educate staff and families
- Encourage families involvement in increasing fluid intake
  - Offer beverages of choice
  - Use beverage carts
  - Use frozen juice bars



## Prevention Strategies

- Give verbal and physical prompts to drink fluids
  - The effects of systematic oral prompts to drink fluids and of offering a choice of beverages was tested in a three-phase study of 63 incontinent LTC residents

American Medical Directors Association, Dehydration and Fluid Maintenance Clinical Practice Guideline, Columbia, MD: AMDA 2009



## Three phase test

- Phase 1
  - 16 weeks
  - Residents prompted to drink fluids once every 2 hours four times a day during incontinence and mobility care sessions

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## Three phase test

- Phase 2
  - 8 weeks
  - Participants prompted twice every 2 hours (at the end of each incontinence and mobility care session) four times a day
  - Staff offered water and juice before offering coffee or tea (because of incontinence and diuretic properties)

American Medical Directors Association, Dehydration and Fluid Maintenance Clinical Practice Guideline, Columbia, MD, AMDA 2009



## Three phase test

- Phase 3
  - 8 weeks
  - 8 verbal prompts per day
  - Variety of beverages offered
    - Apple, cranberry, grape, orange, and tomato juices
    - Water
    - Milk

American Medical Directors Association, Dehydration and Fluid Maintenance Clinical Practice Guideline, Columbia, MD, AMDA 2009



## Results

- 80% increased average daily fluid intake
- 20% increased average daily fluid intake only when preferred beverage was offered
- 33% increased fluid intake less than 5 ounces daily
- 33% increased 5-20 ounces daily
- 25% decreased fluid intake

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## Practical strategies

- Increase amount of fluid offered with medications
- Include fluids in activities
- Install cup holders on wheelchairs
- Train all staff to offer fluids when entering and leaving resident rooms
- Model drinking behavior



## Practical strategies

- Implement Frazier Water Protocol for those residents with dysphagia
  - Speech pathologist evaluation
  - Requires excellent oral hygiene



## Water in Common Foods and Drinks

### Food item.....Estimated water content

- Milk.....90%
- Yogurt.....87%
- Soup (broth based).....90%
- Orange juice.....88%
- Tomato.....95%
- Cucumber.....97%
- Apple.....86%
- Cantaloupe.....90%
- Decaffeinated tea or coffee.....90%

June 2007, Department of Foods and Nutrition, The University of Georgia, Athens, GA 30602



## Questions

- What ideas can you share that have worked in your home?



## References

- American Medical Directors Association, Dehydration and Fluid Maintenance Clinical Practice Guideline. Columbia, MDS: QMDA 2009
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- Menten, Janet. Oral Hydration in Older Adults: Greater awareness is needed in preventing, recognizing, and treating dehydration. *AJN, American Journal of Nursing* 2006;106(6):40-49.
- NOAH net. June 2007, Department of Foods and Nutrition, The University of Georgia, Athens, GA 30602.























**Water in Common Foods and Drinks**

**Food item.....estimated water content**

|                                    |     |
|------------------------------------|-----|
| x Milk.....                        | 90% |
| x Yogurt.....                      | 87% |
| x Soup (broth based).....          | 90% |
| x Juice (orange).....              | 88% |
| x Tomato.....                      | 95% |
| x Cucumber.....                    | 97% |
| x Apple.....                       | 86% |
| x Cantaloupe.....                  | 90% |
| x Decaffeinated tea or coffee..... | 99% |

Source: USDA National Nutrient Database for Standard Reference, Release 19





## Water Questions

Please circle your answers.

**1. How many glasses of fluid are needed each day?**

1      2      3      4      5      6      7      8      9

**2. I drink this many glasses of fluid each day:**

1      2      3      4      5      6      7      8      9

**3. I will increase my fluids by eating or drinking more:**

|       |            |      |       |
|-------|------------|------|-------|
| Water | Vegetables | Milk | Juice |
| Fruit | Other      |      |       |

**4. When your urine is dark yellow it could mean that your body is dehydrated:**

No                      Yes