Dehydration

Objective

To promote evidence-based practice in detecting and responding to dehydration, and screening and assessment for dehydration.

Why detecting and responding to dehydration is important

Dehydration is common in older people and can lead to constipation, increased risk of infections, falls and medication toxicity. Dehydration in older people is preventable. The risk of dehydration is increased in residents living in aged care facilities (Mentes 2011).

Definitions

**Dehydration:** depletion of total body water caused by pathological loss of fluid, inadequate fluid intake or a combination of both (Mentes 2011, p. 420)

Risk factors for dehydration:

- increasing age (85 and over), female and age related physiological changes
- limitations in oral intake due to:
  - reduced thirst sensation
  - dysphagia, modified fluids and food
  - reluctance to drink to manage incontinence
  - poor mobility reducing access to fluids
  - reliance on staff to assist with oral intake
- fluid loss through diarrhoea, vomiting, diuretics, fever, sweating, heat and humidity
- health status that affect cognitive functioning: sedation, delirium, dementia, depression
- body mass index (BMI) < 21 or > 27
- acute illness, multiple comorbidity, end of life
- medicines (diuretics, laxatives, lithium, psychotropics).

**Body mass index (BMI):** a weight to height ratio calculation that assists the assessment of the resident’s nutritional status.

BMI is calculated using the following formula:

\[ BMI = \frac{\text{weight in kilograms}}{\text{height in metres}^2} \]

(WHO 2012)

**Clinical risk:** is where action or inaction on the part of the organisation results in potential or actual adverse health outcome on consumers of health care (Department of Health, 2012, p5).

**Care team**

Manager, registered nurses (RNs), enrolled nurses (ENs), personal care attendants (PCAs), general practitioner (GP), occupational therapist, speech pathologist, dietitian, residents and/or family/carers.

**Acknowledgement**

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### Dehydration: brief standardised care process

<table>
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<th>Recognition and assessment</th>
<th>On admission and at any time if there is a change in the resident's condition or symptoms of dehydration present, conduct a comprehensive assessment.</th>
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| Interventions             | If no dehydration identified, maintain interventions to prevent dehydration in residents. If dehydration is indicated by the assessment:  
  - Review prevention strategies in place.  
  - Review daily intake goal, increasing oral fluids as tolerated.  
  - Document and monitor fluid intake and output.  
  - Monitor symptoms by repetition of the above assessment.  
  If severe symptoms are present or if mild symptoms do not improve:  
  - Refer to GP for medical assessment, diagnosis (including underlying causes) and treatment.  
  - Implement treatment plan as ordered by the GP.  
  - In conjunction with GP review daily fluid intake goal. |
| Referral                  | • GP  
  • Occupational therapist if available for advice regarding appropriate drinking aids  
  • Speech pathologist  
  • Dietitian  
  • Pathology |
| Evaluation and reassessment| • Monitor resident until symptoms are relieved.  
  • Monitor urine specific gravity and colour.  
  • Continue preventative interventions.  
  • Monitor functional ability.  
  • Ongoing monitoring of resident for changes in condition and/or symptoms of dehydration. |
| Resident involvement      | • Determining preferred fluids and daily intake goal.  
  • Education regarding the importance of adequate fluid intake. |
| Staff knowledge and education | • Causes of dehydration in older people.  
  • Maintaining adequate hydration.  
  • Signs and symptoms of dehydration. |
## Dehydration: full standardised care process

| Recognition and assessment | On admission and at any time if there is a change in the resident’s condition or symptoms of dehydration present conduct an assessment including:
| --- | --- |
|  | • previous history of dehydration  
|  | • medical history  
|  | • current medications  
|  | • cognitive status  
|  | • continence status  
|  | • mobility status  
|  | • the resident’s usual fluid intake pattern (for example, amount, type of fluid, preferred temperature of fluid)  
|  | • ability to access fluid and drink fluids  
|  | • functional ability and need for aids such as straws, special cups.  
| Conduct a physical assessment: |  
|  | • lying/standing blood pressure (low blood pressure and/or postural hypotension may be an indicator of dehydration), temperature, pulse rate, respiration rate, capillary refill rate  
|  | • height and weight  
|  | • calculate body mass index (BMI)  
|  | • monitor fluid input and urine output (should be greater than 700 ml per day)  
|  | • urinalysis (colour, specific gravity)  
|  | • symptoms of dehydration:  
|  |   - furrowed dry tongue  
|  |   - dry oral mucosa  
|  |   - loss of skin turgor (allowing for normal age related changes to the skin)  
|  |   - change in mental status (confusion, disorientation, altered consciousness, headache)  
|  |   - slow capillary refill  
|  |   - sunken eyes  
|  |   - drowsiness  
|  |   - low blood pressure and/or postural hypotension  
|  |   - rapid pulse  
|  |   - muscle weakness and/or physical frailty  
|  |   - constipation and/or small amounts of dark, concentrated urine.  

## Dehydration: full standardised care process

### Interventions

If no dehydration identified, maintain interventions to prevent dehydration:

- Determine an individualised daily fluid intake goal.
- Provide preferred fluids (but limit alcohol).
- Have fluid available at all times.
- Offer fluids regularly through the day (for example, every one and a half hours, fluid rounds)
- Offer a variety of fluids over the day (for example, hot drinks, cold drinks, juice, milk, soups, icy poles).
- Provide physical assistance as required and adequate time is allocated to staff to facilitate this.
- Provide aids (for example, straws, special cups) ensuring they are used at all times.
- Standardise amount of fluid given with medications, for example 180 ml per administration.
- Involve family to encourage fluid intake.
- Promote pleasurable and social opportunities for fluid intake (afternoon tea, happy hour (non-alcoholic), drinks/ice cream trolley).
- Prompt recognition and communication of symptoms of dehydration by staff.

If dehydration is indicated by the assessment:

- Establish severity.
- Establish treatment goal if resident has reached end of life phase.
- Review prevention strategies already in place.
- Review daily intake goal, increasing oral fluids as tolerated.
- Document and monitor fluid intake and output.
- Refer to GP to consider blood tests and withholding renal toxic, renally excreted or diuretic medicines.
- Monitor symptoms by repeating the above assessment for example:
  - daily if there is no or only marginal improvement in fluid intake
  - in seven days if daily intake goal is being achieved.

If severe symptoms are present or if mild symptoms do not improve:

- Refer to GP for medical assessment, diagnosis (including underlying causes) and treatment.
- Implement treatment plan as ordered by the GP.
- In conjunction with GP review daily fluid intake goal.

### Referral

- GP
- Occupational therapist if available for advice regarding appropriate drinking aids
- Speech pathologist
- Dietitian
- Pathology
Dehydration: full standardised care process

Evaluation and reassessment
- Monitor resident until symptoms are relieved.
- Monitor urine specific gravity and colour.
- Continue preventive interventions.
- Monitor functional ability, for example, how much assistance the resident needs to access, pour and drink fluids.
- Ongoing monitoring of resident for changes in condition and/or symptoms of dehydration.
- Ongoing monitoring of resident for symptoms of over-hydration, that is, unexplained weight gain, peripheral oedema, neck vein distension, shortness of breath.

Resident involvement
- Determining preferred fluids and daily intake goal.
- Education regarding the importance of adequate fluid intake.

Staff knowledge and education
- Causes of dehydration in older people.
- Maintaining adequate hydration.
- Signs and symptoms of dehydration.

Nomogram to determine recommended water intake of nursing home residents (Gaspar 2011)

Instructions to determine recommended fluid intake:
- Find height on left hand scale and weight on right hand scale.
- Connect these 2 points with straight edge.
- Where the line crosses the middle scale read the recommended water intake.
Evidence base for this SCP


Mentes JC and Kand S 2011, *Hydration management*, University of Iowa College of Nursing and John A Hartford Foundations Center of Geriatric Nursing Excellence, Iowa City.


**Important note:** This SCP is a general resource only and should not be relied upon as an exhaustive or determinative clinical decision-making tool. It is just one element of good clinical care decision making, which also takes into account resident/patient preferences and values. All decisions in relation to resident/patient care should be made by appropriately qualified personnel in each case. To the extent allowed by law the Department of Health and Human Services and the State of Victoria disclaim all liability for any loss or damage that arises from any use of this SCP.

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