

## UTI Program

# Causes of delirium and mental status changes

A core practice of the Urinary Tract Infection Program is reinforcing the accepted clinical signs and symptoms of a urinary tract infection. Delirium\* is no longer an accepted clinical sign. This resource will help health care providers identify and consider the many potential causes of delirium.

\*Delirium: A new (acute) and fluctuating syndrome of impaired attention and awareness.<sup>1</sup>

### Causes of Delirium in the Elderly (DELIRIUMS Acronym)

#### D

- Dehydration
- Depression
- Drugs
- New drug, increased dose or drug interaction. Including but not limited to:
  - Narcotics/opioids (especially meperidine [Demerol])
  - Benzodiazepines
  - Corticosteroids
  - Drugs with “anticholinergic” properties (effects may be additive), such as antihistamines (e.g., diphenhydramine [Benadryl]); hydroxyzine (Atarax); dimenhydrinate (Gravol); diphenoxylate/atropine (Lomotil); some antidepressants (e.g., amitriptyline, nortriptyline, desipramine, imipramine, doxepin, paroxetine); ranitidine (Zantac); muscle relaxants (e.g., cyclobenzaprine [Flexeril], methocarbamol); antipsychotics (e.g., clozapine, olanzapine, quetiapine); bladder agents (e.g., oxybutynin, tolterodine, darifenacin, solifenacin); benzotropine; amantadine; carbamazepine, etc.
  - Anti-seizure medications
  - Digoxin if drug levels are too high
  - Multiple medications; multiple psychoactive drugs
  - Drug withdrawal (e.g., sedatives/benzodiazepines, alcohol, nicotine, some antidepressants)

- E**
- Electrolyte abnormalities (hypo-/hyponatremia (low or high serum sodium), hypo-/hypercalcemia (low or high serum calcium))
  - Endocrine disorders (e.g., thyroid or adrenal dysfunction)
  - ETOH (alcohol) and other drug withdrawal
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- L**
- Liver failure
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- I**
- Infections (especially respiratory, skin, urinary tract)
  - Impaired oxygenation (e.g., from exacerbations of chronic obstructive pulmonary disease, congestive heart failure, myocardial infarction)
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- R**
- Renal failure
  - Retention of urine or stool (constipation)
  - Recent change in surroundings or emotional stress
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- I**
- Immobilization (catheters or restraints)
  - Injuries
  - Increased pressure in the brain (intracranial)
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- U**
- Untreated/undertreated pain
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- M**
- Metabolic disorders (e.g., hypo-/hyperglycemia [low or high blood sugar levels], hypo-/hyperthermia [low or high body temperature])
  - Malnutrition (including thiamine, folate or B12 deficiency)
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- S**
- Sleep deprivation
  - Sensory impairment (hearing or vision—e.g., lack of/ill-fitting hearing aids or glasses)
  - Stroke

## Reference

1. American Geriatrics Society. Geriatrics evaluation and management tools. New York: American Geriatrics Society; 2014. Delirium [cited February 2016]. Available from: <http://geriatricscareonline.org/ProductAbstract/geriatrics-evaluation-management-tools/B007/>

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## Contact

This resource is part of Public Health Ontario's UTI Program.

For more information please visit [www.publichealthontario.ca/UTI](http://www.publichealthontario.ca/UTI) or email [ipac@oahpp.ca](mailto:ipac@oahpp.ca).