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## Recommendations (overview) of relevant medical delirium guidelines

Recommendations to prevent / to manage delirium	Number of included guidelines (GL)*									
	1	2	3	4	5	6	7	8	9	10
<b>1 Detection</b>	X	X	X	X	X	X	X	X	X	X
<b>2 Mode of health care supply</b>	X <sup>1</sup>	X	X		X	X	X	X	X	
<b>3 Material environment</b>		X	X	X	X	X	X	X		X
<b>4 Social environment</b>		X	X	X	X	X	X	X		
<b>5 Orientation</b>	X	X	X	X	X	X	X	X	X	X
<b>6 Cognitive stimulation</b>			X		X	X	X	X		
<b>7 Sensory impairments</b>	X	X	X	X	X	X	X	X	X	X
<b>8 Fluid balance</b>	X	X	X	X	X	X	X	X	X	X
<b>9 Nutrition/eating/metabolism</b>		X	X	X	X	X	X	X	X	
<b>10 Infection</b>	X	X	X	X	X	X	X	X	X	X
<b>11 Mobilization</b>	X	X	X	X	X	X	X	X		
<b>12 Medication review</b>	X	X	X	X	X	X	X	X	X	X
<b>13 (Emergency) Surgery</b>	X	X	X	X	X			X	X	X
<b>14 Pain</b>		X	X	X	X	X	X	X	X	X
<b>15 Day-night rhythm</b>	X	X	X	X		X	X	X		
<b>16 Monitoring</b>	X	X	X	X	X	X	X	X	X	X
<b>17 Education</b>		X	X	X		X	X	X	X	X
<b>18 Sufficient oxygen supply</b>		X	X	X	X	X	X	X	X	X

Legend of this and all following tables: X = Intervention component integrated or as a risk factor considered

\*Included medical delirium guidelines (GL) in this and all following tables:

- 1 International: Leentjens et al. (2012)
- 2 Australia: Health Care of Older Australian Standing Committee (HCOASC), and the Australian Department of Health and Ageing (2008)
- 3 Canada: Canadian Coalition for Seniors' Mental Health (CCSMH) (2006)
- 4 Great Britain: British Geriatrics Society (BGS), Royal College of Physicians (RCP) (2006)
- 5 Great Britain: Fleet, J.; Ernst, T. Guy's and St. Thomas' - NHS Foundation Trust (2013)
- 6 Great Britain: NICE (National Institute for Health and Care Excellence, GB) (2010)
- 7 Netherlands: Leentjens et al. (2014)
- 8 Switzerland: Savaskan et al. (2016)
- 9 USA: The American Geriatrics Society Expert Panel on Postoperative Delirium in Older Adults (2015)
- 10 USA: American Psychiatric Association (APA) (2010)

<sup>1</sup> Available evidence does not allow recommendations of specific models of organization (GL: 1, Leentjens et al. 2012)

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## Recommendations (details) of relevant medical delirium guidelines

Recommendations to prevent/to manage delirium	Number of included guideline (GL)*									
	1	2	3	4	5	6	7	8	9	10
<b>1 Detection</b>										
Defined as risk groups (old age, people with dementia/MCI)	X	X	X	X	X	X	X	X	X	X
Screening/early detection	X	X	X	X	X	X	X	X	X	X
Pay attention to changes in behavior								X		
Targeting individual risk factors			X							
Medical report								X		
History from relatives/carers/examination/ investigation				X						
Professionals are familiar to persons at risk					X	X	X			
Follow up and assess for possible dementia						X	X		X	
<b>2 Mode of health care supply</b>										
No changes of nurses, wards, bays					X	X	X			
Carry out multicomponent interventions...		X	X			X	X	X	X	
...that are tailored, based on assessments						X	X			
...that are on a multidisciplinary/ interprofessional basis by (competent and trained health care professionals)			X			X	X	X	X	
Don't do unnecessary tests					X					
Prevent complications		X								
Available evidence does not allow for recommen- dations of specific model of organization	X									
<b>3 Material environment</b>										
Personal objectives/family pictures		X			X					
Avoid bedrails						X	X			
Avoid physical restraints		X		X	X			X		
Avoid sensory deprivation			X							X
Quiet (especially at night)/safe environment		X			X	X	X	X		X
Prefer single rooms		X								
Avoid side rooms					X					
Put delirious patients not in the same room			X							
Optimal level of environmental stimulation										X
Environmental risk factors should be modified/ incorporated into care plans		X	X							
Reduce/eliminate environmental factors			X							X
Appropriate Lighting		X	X		X	X	X	X		
...and avoid bright lights at night					X			X		
<b>4 Social environment</b>										
Empathy/notice (acknowledge feelings,...)					X			X		
Attitude of warmth, calmness and kind firmness, explain providing care			X							
Customized communication			X	X	X	X	X	X		
Discuss topics that are familiar or of interest			X							
Encourage independence (in basic ADLs)		X								
Avoid gestures or touching			X							
Family/carer involvement		X			X	X	X	X		
Alliance with patients/carer/friends			X							
Allow watching movies, listening to music – interrupt if patient is disorientated or disturbed			X							

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Recommendations to prevent / to manage delirium	Number of included guideline (GL)*										
	1	2	3	4	5	6	7	8	9	10	
<b>5 Orientation</b>											
(Re-)Orientation (information staff/role/who and where they are,...)	X	X	X	X	X	X	X	X	X	X	X
Orientation protocol			X								
Help with repeated questions								X			
Clock, calendar		X			X	X	X	X			X
Clear signage						X	X	X			X
Engagements in activities				X							
<b>6 Cognitive stimulation</b>											
General recommendations – not specified			X		X	X	X	X	X		
Avoid over-stimulation								X			
<b>7 Sensory impairments</b>											
Ensure/assist wearing vision/hearing aids	X	X	X	X	X	X	X	X	X	X	X
Evaluating reversible causes/devices			X			X	X				
<b>8 Fluid balance</b>											
Reducing the risk/treatment of dehydration	X	X	X	X	X	X	X	X	X	X	X
Ensure/encourage/assist oral drinking		X	X		X	X	X	X			
s.c./i.v. fluid if necessary						X	X	X			
Early remove of i.v. infusion								X			
<b>9 Nutrition/Eating/Metabolism</b>											
Balanced diet/avoid/treat malnutrition		X	X	X	X	X	X	X	X	X	
Documentation of food intake								X			
Involving diabetics if necessary					X			X			
Nutrition support						X	X				
Encourage patients to move to dining room								X			
Invite relatives to share mealtime								X			
Consider nutrition by providing dentures					X	X	X	X			
Avoiding soor/aspiration pneumonia								X			
Balancing Electrolyte		X	X	X	X	X	X	X			X
Regulation of bowel function/prevention of constipation		X			X	X	X	X	X		
Regulation of bladder function		X	X	X		X	X	X			
<b>10 Infection</b>											
Looking for and treating infection	X	X	X	X	X	X	X	X	X	X	X
Avoiding iatrogenic events				X	X			X			
Avoiding (indwelling) catheter		X	X	X	X	X	X	X			
<b>11 Mobilization</b>											
Encourage/assist regular mobilization		X		X	X			X			
Range of motion exercise						X	X				
Exercise in bed								X			
Supported by physio-/occupational therapist								X			
Fall prevention/improving sense of balance					X			X			
Early mobilization (general)...			X	X	X						
...soon after surgery						X	X	X			
Provide appropriate walking aids						X	X	X			
Reduce the risk of immobility	X	X		X							

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Recommendations to prevent / to manage delirium	Number of included guideline (GL)*									
	1	2	3	4	5	6	7	8	9	10
<b>12 Medication review</b>										
Reduce/avoid polypharmacy			X	X		X	X			
Medication control		X	X			X	X	X	X	X
...administer only essential medications								X		
Reduce/avoid /be careful with psychoactive drugs	X	X	X	X		X	X	X		
Reduce/avoid drugs that induce delirium postoperatively									X	
Monitor drug intake...								X		
...and adverse drug disease			X							
<b>13 (Emergency) Surgery</b>										
Prevent/detect/treat post-op complications			X	X		X	X	X	X	
Proactive consultation (geriatrician/psychiatrist/...) to persons undergoing surgery			X							
...preoperatively or within 24h after surgery, and daily after surgery		X								
<b>14 Pain</b>										
Assessing/treating for pain (non-verbal signs, people with dementia and communication difficulties)		X	X	X	X	X	X	X	X	X
Reviewing appropriate pain management			X			X	X	X		
Non-pharmacological approaches			X							
<b>15 Day-night rhythm</b>										
Promoting relaxing/sleep (patterns) and encouraging wakefulness	X	X	X		X	X	X	X	X	
Avoiding nursing or medical procedures during night						X	X	X		
Avoid routine use of sedatives for sleep problems – use non-pharmacologic sleep-protocol			X							
<b>16 Monitoring</b>										
(Daily), close observation of all people in hospital for recent changes or fluctuations in usual behavior	X	X	X	X	X	X	X	X	X	X
Documentation		X	X	X	X	X	X	X	X	X
Assessment (Diagnose)	X	X	X	X	X	X	X	X	X	X
<b>17 Education</b>										
Educational interventions directed to staff		X	X	X	X	X	X	X	X	
Formal programs with ongoing formal/informal refresher sessions									X	
Training to recognize hypoactive delirium									X	
Educate patients and their carers/family		X								X
<b>18 Sufficient oxygen supply</b>										
Assessing hypoxia and optimizing saturation		X	X	X	X	X	X	X	X	X

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Additional recommendations for treatment of delirium	Number of included guideline (GL)*									
	1	2	3	4	5	6	7	8	9	10
<b>Assessing the psychiatric status and monitoring/psychiatric management</b>										X
<b>Increase supervision during delirium (in the following sequence: RN's, family members, nurse sitter, personal care attendant or patient companion)</b>			X							
<b>Cognitive-emotional supportive measures</b>										X
<b>Intraoperative measurement</b>									X	
<b>Triggers and causes</b>										
Investigate and address causes of delirium	X	X	X	X	X	X	X	X	X	X
Treatment of underlying/contributing causes...	X		X	X	X	X	X	X		X
... or combination of causes						X	X			
Re-evaluate underlying causes						X	X			
<b>Signs and symptoms</b>										
Treatment of hypoactive delirium								X		
Coordinating the care with other clinicians, advice to nurses/general medical physicians										X
Initiating immediate (somatic) interventions for urgent general medical conditions										X
Psychiatric review, if hallucinations present					X					
Symptomatic treatment/management of symptoms	X	X								
<b>Advice and information</b>										
Explanation of the cause/the diagnoses of confusion to relatives...				X	X	X	X	X		
...and patients						X	X	X		X
Reassurance/education regarding risk factors for future episodes										X
Integration of caregivers/ family into therapy								X		
Transfer to another practitioner/ service: inform about the presence of delirium and treatment			X							
<b>Assessing individual and family psycho-logical/social characteristics</b>										X
<b>Establishing/ maintaining a supportive therapeutic stance with patients/family, other clinicians</b>										X
<b>Behavioral management strategies/ effective communication techniques especially to agitated patients</b>	X		X			X	X	X		
<b>De-escalation: use of verbal and non-verbal techniques if a patient is distressed/considered a risk to themselves or others</b>					X	X	X			
<b>In case that the initial management described above has no effect, some guidelines recommend a second line management for those in distress or considered to be at risk to themselves or others. If de-escalation techniques have no effect, pharmacological interventions may be considered</b>	X					X	X			