

## Supplemental materials

# Sleep treatments in Disorders of Consciousness: A systematic review

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### Search strategy

**MEDLINE (advanced search)**

#1 (search string related to the domain of disorders of consciousness)

((((((((((((((((((((((((((((((Persistent Vegetative State[MeSH Terms])) OR (Consciousness Disorders[MeSH Terms]))OR (Persistent Vegetative State[Title/Abstract])))) ) OR (Persistent Vegetative States[Title/Abstract]) OR (Consciousness Disorders[Title/Abstract])) OR (Consciousness Disorder[Title/Abstract])) OR (Vegetative State[Title/Abstract])) OR (Vegetative States[Title/Abstract])) OR (Unawareness State[Title/Abstract])) OR (Unawareness States[Title/Abstract])) OR (Minimally Conscious State[Title/Abstract])) OR (Minimally Conscious States[Title/Abstract])) OR (Unresponsive wakefulness syndrome[Title/Abstract])) OR (Disorders of Consciousness[Title/Abstract])))) ) OR (Disorder of Consciousness[Title/Abstract])) OR ('severe traumatic brain injury'[Title/Abstract])) OR ("brain injury"[Title/Abstract])) OR ("hemorrhagic brain injury")) OR (ischemic brain injury)) OR ("post anoxic brain injury")) OR ("traumatic brain injury"))))

#2 (search string related to the domain of sleep disorders)

((((((((((((((((((((((((Sleep Disorders, Intrinsic[MeSH Terms]) OR (Sleep Bruxism[MeSH  
Terms])) OR (Sleep Apnea, Central[MeSH Terms])) OR (Sleep Apnea, Obstructive[MeSH Terms]))  
OR (Sleep Wake Disorders[MeSH Terms])) OR (Sleep Apnea Syndromes[MeSH Terms])) OR  
(Restless Legs Syndrome[MeSH Terms])) OR (Sleep Disorder[Title/Abstract])) OR (Sleep  
Disorders[Title/Abstract])) OR (Bruxism[Title/Abstract])) OR (Bruxisms[Title/Abstract])) OR  
(Teeth Grinding Disorder[Title/Abstract])) OR (Central Sleep Apneas[Title/Abstract])) OR (Sleep

Apnea[Title/Abstract])) OR (Obstructive Sleep Apneas[Title/Abstract])) OR (Obstructive Sleep Apnea[Title/Abstract])) ) OR (Sleep-Disordered Breathing[Title/Abstract])) OR (Apnea Syndrome[Title/Abstract])) OR (Apnea Syndromes[Title/Abstract])) OR (Hypopnea, Sleep[Title/Abstract]) OR (Hypopneas, Sleep[Title/Abstract]) OR (Restless Legs[Title/Abstract])) OR (Restless Leg Syndrome[Title/Abstract])) OR (Willis Ekbom Disease[Title/Abstract])) OR (Wittmaack-Ekbom Syndrome[Title/Abstract])) ) OR (periodic limb movement disorder[Title/Abstract])) OR (periodic limb movement disorders[Title/Abstract])) OR (nocturnal myoclonus syndrome[Title/Abstract]))))

#3 (search string related to the domain of treatment)

'treatment outcome'/exp/mj OR 'treatment outcome'/exp OR 'treatment outcome' OR 'therapy'/exp/mj OR 'therapy'/exp OR 'therapy' OR 'therapeutic':ti,ab,kw OR 'outcome treatment':ti,ab,kw OR 'clinical effectiveness':ti,ab,kw OR 'treatment effectiveness':ti,ab,kw OR 'disease management':ti,ab,kw OR ('treatment' NEAR/4 ('sleep' OR 'apnea\*' OR 'bruxism'))

#1 AND #2 AND #3

### ***SCOPUS (advanced search)***

#1

( TITLE-ABS-KEY ( "Consciousness Disorders\*" ) OR TITLE-ABS-KEY ( "Persistent Vegetative State\*" ) OR TITLE-ABS-KEY ( "Vegetative State\*" ) OR TITLE-ABS-KEY ( "Unresponsive wakefulness syndrome" ) OR TITLE-ABS-KEY ( "Minimally Conscious State\*" ) OR TITLE-ABS-KEY ( "Disorders of Consciousness\*" ) OR TITLE-ABS-KEY ( "severe traumatic brain injury" ) OR TITLE-ABS-KEY ( "brain injury" ) OR ALL ( "hemorrhagic brain injury" ) OR ALL ( "ischemic brain injury" ) OR ALL ( "post anoxic brain injury" ) OR ALL ( "traumatic brain injury" ) )

#2

( TITLE-ABS-KEY ( "Sleep Disorder\*" ) OR TITLE-ABS-KEY ( "Sleep Bruxism" ) OR TITLE-ABS-KEY ( " Central sleep apnea\*" ) OR TITLE-ABS-KEY ( "obstructive sleep apnea\*" ) OR TITLE-ABS-KEY ( "Sleep Apnea Syndrome\*" ) OR TITLE-ABS-KEY ( bruxism\* ) OR TITLE-ABS-KEY ( "Teeth Grinding Disorder" ) OR TITLE-ABS-KEY ( "Sleep-Disordered Breathing" ) OR TITLE-ABS-KEY ( "Hypopnea\*" ) OR TITLE-ABS-KEY ( "Restless Leg Syndrome" ) OR TITLE-ABS-KEY ( "Ekbom Disease" ) OR TITLE-ABS-KEY ( "periodic limb movement disorder\*" ) OR TITLE-ABS-KEY ( "nocturnal myoclonus syndrome" ) OR TITLE-ABS-KEY ( "Restless Leg\*" ) OR TITLE-ABS-KEY ( "Sleep Wake Disorder\*" ) )

#3

( TITLE-ABS-KEY ( "treatment outcome" ) OR TITLE-ABS-KEY ( "therapy" ) OR TITLE-ABS-KEY ( "therapeutic" ) OR TITLE-ABS-KEY ( "outcome treatment" ) OR TITLE-ABS-KEY ( "disease management" ) )

#1 AND #2 AND #3

## ***EMBASE (advanced search)***

#1

'consciousness disorder'/exp/mj OR 'consciousness disorder' OR 'persistent vegetative state'/exp/mj OR 'persistent vegetative state' OR 'vegetative stage':ti,ab,kw OR 'vegetative stages':ti,ab,kw OR 'minimally conscious state':ti,ab,kw OR 'minimally conscious states':ti,ab,kw OR 'disorder of consciousness':ti,ab,kw OR 'disorders of consciousness':ti,ab,kw OR 'unresponsive wakefulness syndrome':ti,ab,kw OR 'severe traumatic brain injury':ti,ab,kw OR 'brain injury':ti,ab,kw OR 'hemorrhagic brain injury' OR 'ischemic brain injury' OR 'post anoxic brain injury' OR 'traumatic brain injury'

#2

'sleep disorder'/exp/mj OR 'sleep disorder' OR 'central sleep apnea syndrome'/exp/mj OR 'central sleep apnea syndrome' OR 'sleep bruxism'/exp/mj OR 'sleep bruxism' OR 'sleep disordered breathing'/exp/mj OR 'sleep disordered breathing' OR 'sleep apnea'/exp/mj OR 'sleep apnea' OR 'restless legs syndrome'/exp/mj OR 'restless legs syndrome' OR 'obstructive sleep apnea'/exp/mj OR 'obstructive sleep apnea' OR 'breathing disorder\*':ti,ab,kw OR 'sleep hypopnoea\*':ti,ab,kw OR 'hypopnoea\*':ti,ab,kw OR 'bruxism\*':ti,ab,kw OR 'restless leg':ti,ab,kw OR 'ekbom syndrome':ti,ab,kw OR 'periodic limb movement disorder\*':ti,ab,kw OR 'nocturnal myoclonus syndrome':ti,ab,kw OR 'sleep wake disorder\*':ti,ab,kw

#3

'treatment outcome'/exp/mj OR 'treatment outcome'/exp OR 'treatment outcome' OR 'therapy'/exp/mj OR 'therapy'/exp OR 'therapy' OR 'therapeutic':ti,ab,kw OR 'outcome treatment':ti,ab,kw OR 'clinical effectiveness':ti,ab,kw OR 'treatment effectiveness':ti,ab,kw OR 'disease management':ti,ab,kw OR ('treatment' NEAR/4 ('sleep' OR 'apnea\*' OR 'bruxism'))

#1 AND #2 AND #3

## ***Web of Science (advanced search)***

#1

TS=('consciousness disorder\*') OR TS=('persistent vegetative state\*') OR TS=('vegetative state\*') OR TS=('minimally conscious state\*') OR TS=('Unresponsive wakefulness syndrome') OR TS=("disorder of consciusness\*") OR TS=('severe traumatic brain injury') OR ALL=('brain injury') OR ALL=('hemorrhagic brain injury') OR ALL=("ischemic brain injury") OR ALL=("post anoxic brain injury") OR ALL=("traumatic brain injury")

#2

TS=('sleep disorder\*') OR TS=('Sleep Bruxism') OR TS=('Central sleep apnea\*') OR TS=('obstructive sleep apnea\*') OR TS=('Sleep Apnea Syndrome\*') OR TS=('bruxism\*') OR TS=('Teeth Grinding Disorder') OR TS=('Sleep-Disordered Breathing') OR TS=('Hypopnea\*') OR TS=('Restless Leg Syndrome') OR TS=('Ekbom Disease') OR TS=('periodic limb movement disorder\*') OR TS=('Sleep Wake Disorder\*')

#3

TS=('treatment outcome') OR TS=('therapy') OR TS=('therapeutic') OR TS=('disease management')  
OR TS=('treatment effectiveness')

#1 AND #2 AND #3

***CINAHL COMPLETE (advanced search)***

#1

"consciousness disorder\*" OR "persistent vegetative state\*" OR "vegetative state\*" OR "minimally conscious state\*" OR "Unresponsive wakefulness syndrome" OR "disorder of consciousness\*" OR "severe traumatic brain injury" OR "hemorrhagic brain injury" OR "ischemic brain injury" OR "post anoxic brain injury" OR "traumatic brain injury"

#2

"sleep disorder\*" OR "Sleep Bruxism" OR "Central sleep apnea\*" OR "obstructive sleep apnea\*" OR "Sleep Apnea Syndrome\*" OR bruxism\* OR "Teeth Grinding Disorder" OR "Sleep-Disordered Breathing" OR "Hypopnea\*" OR "periodic limb movement disorder\*" OR "Restless Leg Syndrome" OR "Sleep Wake Disorder"

#3

"treatment outcome" OR therapy\* OR therapeutic OR treatment\* OR "treatment effectiveness" OR "disease management"

#1 AND #2 AND #3