



Nordisk förening för  
omvårdnadsforskning  
inom intensivvård

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# ICU delirium

Anetth Granberg Axell



# Begrepp och definitioner

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Phrenitis (delirium)  
500 år före Kristus

I den västerländska litteraturen i samband med  
kritisk sjukdom och/eller efter operation

Frings 1746, dokumenterade att patienter efter  
operation utvecklade akut förvirring.



# The second war

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- Andra världskriget.

Soldaterna uppvisade en mängd psykiska störningar.

Begreppen akut förvirring och delirium börjades användas

”The soldiers heart”

Post traumatisk stressyndrom PTDS



# Utveckling av begreppet ICU syndrome

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- Fox (1954)  
depressive reaction
- Blizz(1955)  
Schizophrenic reaction
- Meyer et. al.(1961)  
Catastrophic reaction with  
crazy dreams
- Nathum(1965)  
A new disease of medical  
progress /Madness in  
recovery room units
- **McKegney(1966)**  
**ICUsyndrome**
- Kornfeld(1966)  
Postcardiotomy delirium



# Begreppet Delirium

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- Friggs (1746)
- 500-talet f.Kr.  
”phrenitis”
- 1940-talet  
the second war
- Engel et.al(1959)  
Delirium, a syndrome of  
cerebral insuff
- DSM II 1980  
delirium
- Lipowski (1990)  
Delirium (bok)
- Liptzin 1990
- DSM IV 1994



# DSM IV

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- Diagnostic and Statistical  
Manual of mental Disorders



# ICU delirium and cognitive Impairment Study Group

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- Confusion Assessment Method  
for the ICU (CAM-ICU)

(Ely et al. 2001)

[WWW. ICUdelirium.org](http://WWW.ICUdelirium.org)



# Synonymer att använda

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- Akut förvirring
- Inom intensivvård

ICU syndrome

ICU delirium

använd ej ICU Psychosis



# Defination

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- Delirium is a mental disorder characterized by acute onset, altered level of consciousness, fluctuating course, and disturbances in orientation, memory, thought, and behaviour (Lipowski 1990).

# Liptzin and Levkoff 1992 classified subtypes of delirium into subgroups.

- **hyperactive**” (hyper-vigilance, restlessness, fast or loud speech, irritability, combativeness, impatience, swearing, singing, laughing uncooperativeness, euphoria, anger, wandering, easy startling, fast motor responses, distractibility, nightmares, and persistent thoughts)
- or **hypoactive**” (unawareness, decreased alertness, sparse or low speech, lethargy, slow movements, staring, and apathy).
- Those who rated positive scores were considered **”mixed”**.
- Those who rated as negative on both scores were considered **”neither”**.



# Subsyndromal delirium

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- Liptzin (1999) defined patients with subsyndromal delirium as those who had no symptoms of delirium on initial hospital evaluation and who developed one or more new symptoms in the domains of clouding of consciousness, perceptual disturbance or disorientation during hospitalisation but who did not meet DSM IV criteria for delirium.



# Separate agitation and delirium

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- Agitation could be a part of the clinical signs of delirium but agitation could also have an organic cause, and be a separate reaction and thus a "normal" sign. Agitation is characterised as a progressive anxiety state coupled with acute stress responses, resulting in observable behavioural abnormalities such as paranoia, excessive motor function and hypervigilance.  
(Hassan et al.1998)



# Delirium is often "invisible" (unless you look for it)

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- The vast majority of delirium in ICU is either hypoactive "quiet" subtype (35%) or mixed (64)%
- 1% is pure hyperactivity subtype
- Older age is a strong predictor of hypoactive.
- Onset ICU, day 2
- How long . 4 days (Ely et al. 2001)



# Prevalence of the ICU delirium

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- 50-80 % of ventilated patients develop delirium
- 20-50 % of lower severity ICU patients develop delirium
- 10% remain delirious of hospital discharge

(Ely et al 2001)



# ICU delirium, complex interaction between many factors

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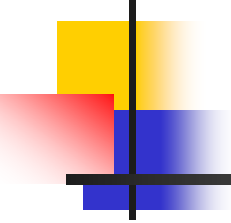
- the psychological trauma inflicted by the illness;
- the environmental stressors inherent in the environment of the ICU,
- and organic factors affecting the Central Nerve System (CNS) function.
- patients' previous psychological problems; (Kuch 1990)



# ICU stressors

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- Restraint
- Sensory overload
- Sensory underload
- Sleep deprivation

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- The presence and duration of delirium is a strong predictor of length of hospital stay apparently even after correcting for severity of illness, age, and days of sedative use. (Ely et al 2001)



## Risk factors can be categorized as:

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- preexisting condition of the patient
- acute condition of the patient
- iatrogenic or environmental factor

(Devlin et al 2007)



# Predisposing factors:

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- Underlying illness such as:  
anemia, metabolic acidosis,  
uremia and jaundice.
- Use of common ICU drugs
- Duration of ventilation  
( Griffiths and Jones 2006)



## Most frequent risk factors:

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- The use of benzodiazepines or narcotics.

(Dubois et al. 2001)



# Delirium assessment instruments:

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- Confusion Assessment Method for the Intensive Care Unit (CAM-ICU)
- Intensive Care Delirium Screening Checklist (ICDSC)
- NEECHAM scale
- Delirium Detection Score (DDS). (Devlin et al 2007)



# Kliniska tecken vid IVA delirium (Granberg Axell et al 2001)

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- Förändring över tid
- desorientering(tid plats, person)
- plötslig panik, oro ångest
- spänd, stel, vägra röra sig
- ansiktsuttryck, ser rädd ut
- vaksamhet, misstänksamhet
- irriterad
- förändring i tanke och tal
- aggressiv (plötslig)
- ”plockig”
- försöker förmedla sej via bisatser



# Kliniska tecken

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- tokiga drömmar
- vanföreställningar
- Overklighets-  
upplevelser
- Perspektiv-  
förändringar
- Uppvisar rädsla för  
vissa av personalen
- vid vila och sömn blir  
patienten orolig och  
plockig
- Sömnsvårigheter



# Intervention

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- Sträva mot att patienten blir orienterad till tid och rum.
- Kognitiv stimulans.
- Dygnsrytm
- Minska ljud och ljus stimuli
- Sömnprotokoll
- Tidig mobilisering
- Ta bort utrustning som ej används ( katetrar och elektroder, ifrågasätt varje dag)



# Interventioner

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- Använd glasögon och hörapparat ( vax i öronen)
- Tidig korrigerig av dehydrering
- Utvärdera ventilatorn varje dag
- Smärtbedömning
- Anhöriga
- Identifiera vilka droger som bidrar till utvecklingen av delirium  
([WWW. ICUdelirium.org](http://WWW.ICUdelirium.org))



# Treatment of delirium

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- Identify etiologies – usually multiple likely causes
- Modify risk factors (e.g. reduce benzodiazepines)
- No FDA approved therapies
- Haloperidol 2.5 mg IVP q 6h
- Atypical antipsychotics are also used
- Monitor side effects carefully  
([www.ICUdelirium.org](http://www.ICUdelirium.org))



# Delirium and Outcomes

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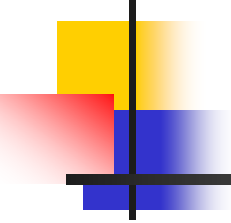
- Increased ICU length of stay (8vs 5 days)
- Increased hosp length of stay (21vs.11days)
- Increased time on the ventilator (9vs 4days)
- Higher costs
- Increased risk of death
- Possibly increased long term cognitive impairment
- ([www.ICUdelirium.org](http://www.ICUdelirium.org))



# Conclusions on ICU delirium

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- ICU delirium is an under-recognized form of acute organ dysfunction in the critically ill
- It occurs in the majority of ventilated ICU patients, preferentially affecting older patients.
- Delirium is an independent predictor of length of stay, cost of care, and mortality at 6 months
- Simple, quick, routine monitoring will help target patients for earlier interventions that may improve outcomes
- Management options are many  
([www.ICUdelirium.org](http://www.ICUdelirium.org))

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- The ICU delirium consists both of general clinical signs and signs which are unique to each patient and related to the individual patient's reactions during sedation, weaning process, extubation and after extubation.

(Granberg Axell ,2008)