



UMC Utrecht

Sepsis en de hersenen

Arjen Slooter



Inleiding

Dhr A, 63 jaar, opgenomen met sepsis bij longontsteking

In het ziekenhuis krijgt hij een delier (delirium)

Delirium

Verwardheid, minder interactie

Soms onrust en hallucinaties

Door b.v. ziekte, medicijnen, slechte nierfunctie

Ouderen zijn vooral kwetsbaar,
niet alleen door stoppen met alcohol

Inleiding

Dhr A, 63 jaar, opgenomen met sepsis bij longontsteking

In het ziekenhuis krijgt hij een delier (delirium)

Thuis valt het tegen: moeite met krant lezen en boodschappen doen, snel overprikkeld

Lukt daarna niet goed om zijn werk als kok op te pakken

Inleiding

Hoe komt het dat dhr A moeite heeft met
'cognitieve activiteiten'?

Komt dat omdat hij voor opname al wat achteruit ging?

Komt het door de sepsis? Of door delirium?

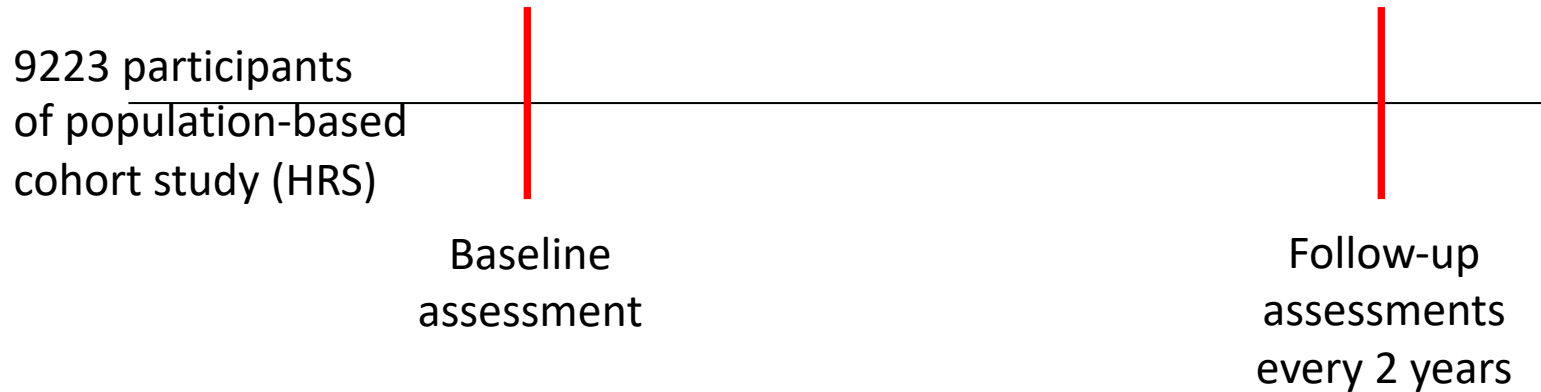
The burden

 CARING FOR THE
CRITICALLY ILL PATIENT

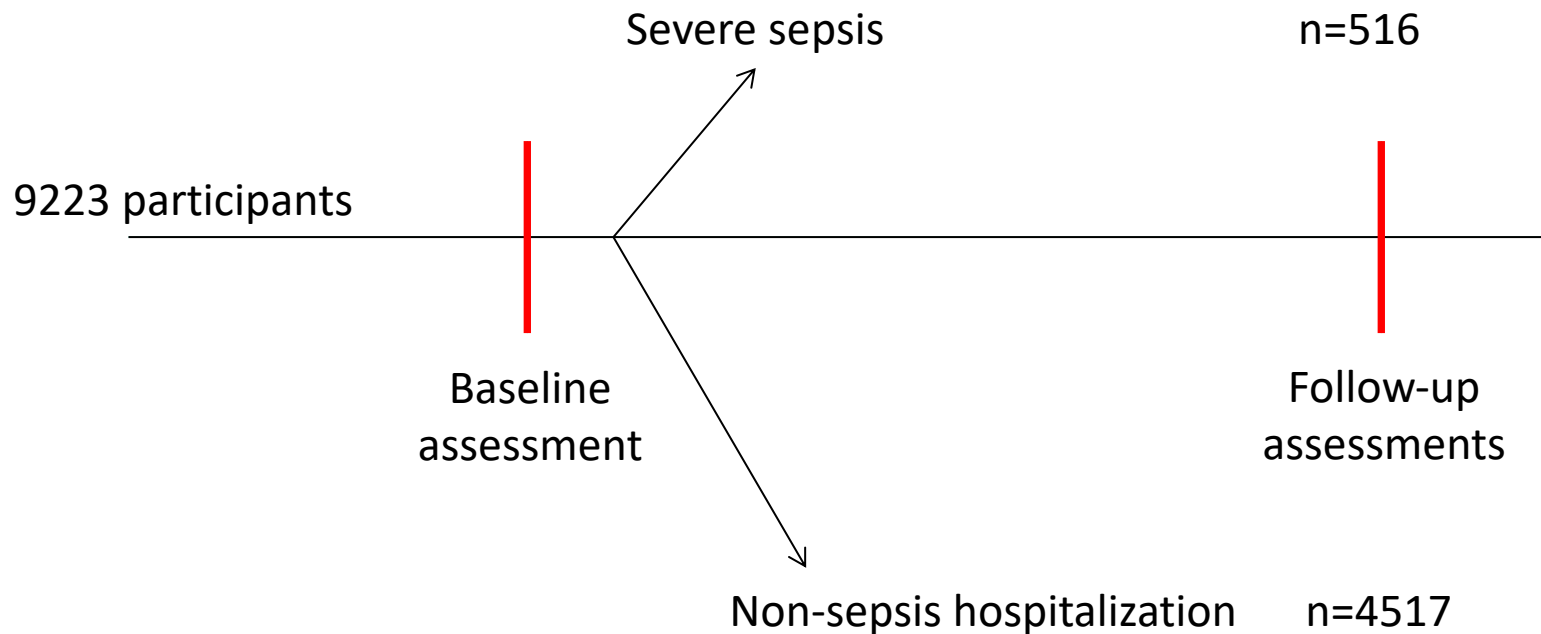
Long-term Cognitive Impairment and Functional Disability Among Survivors of Severe Sepsis

Theodore J. Iwashyna, MD, PhD

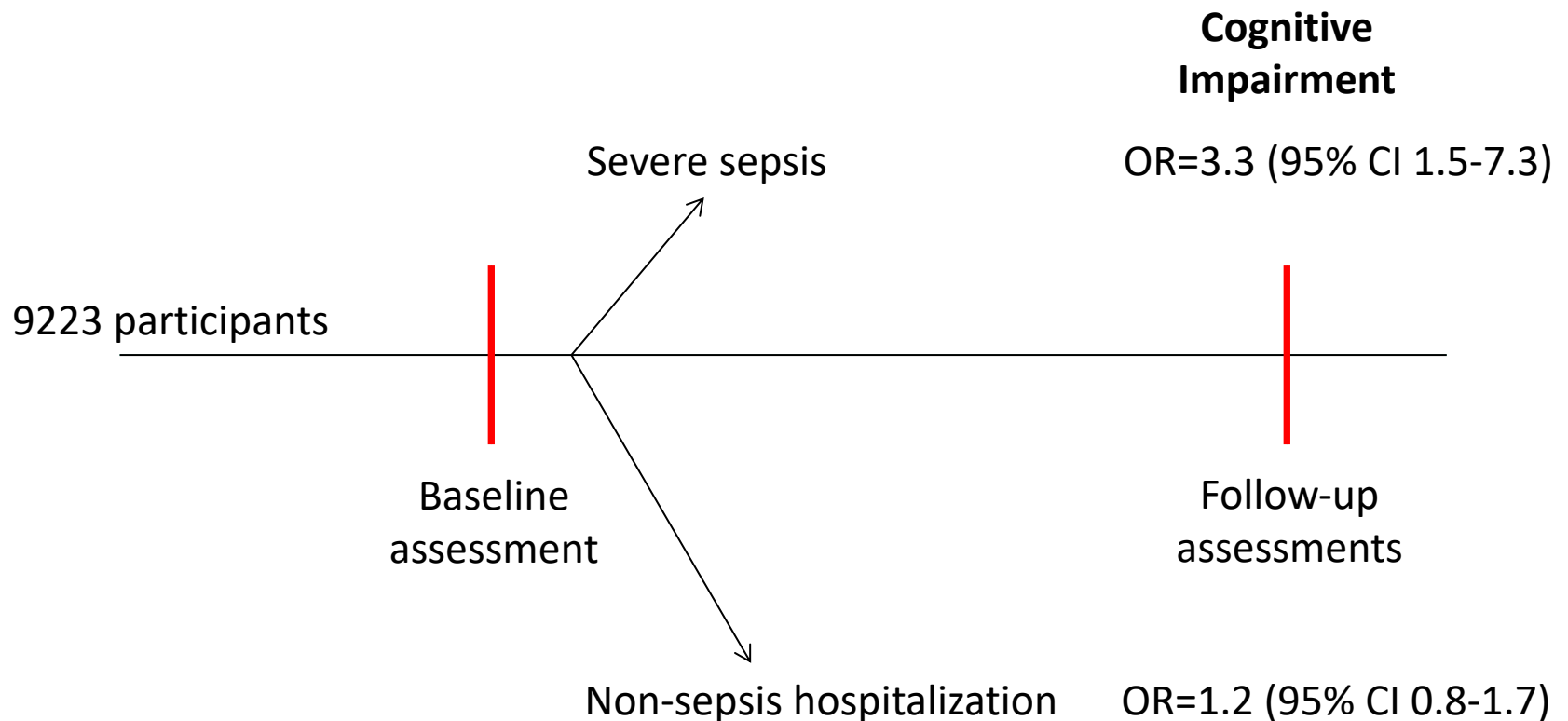
The burden



The burden



The burden



The burden

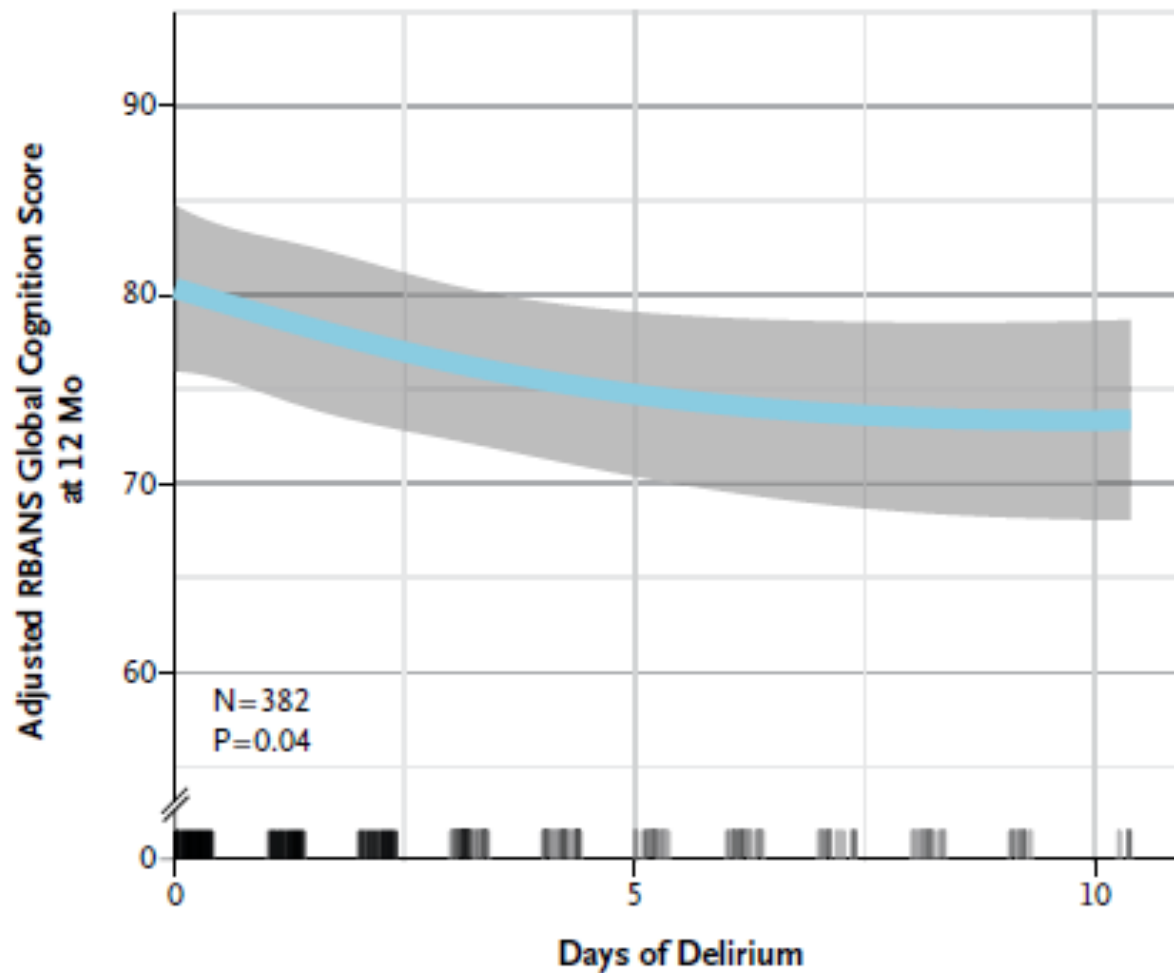
The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Long-Term Cognitive Impairment after Critical Illness

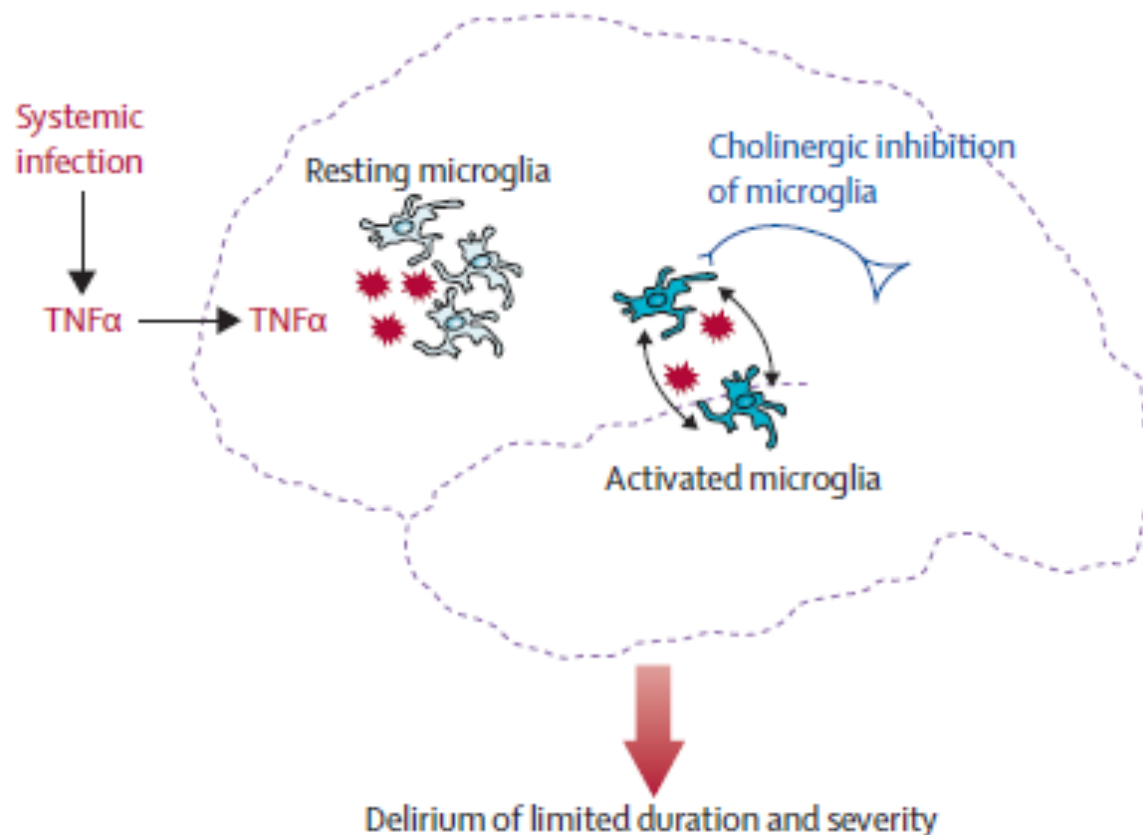
P.P. Pandharipande, T.D. Girard, J.C. Jackson, A. Morandi, J.L. Thompson,
B.T. Pun, N.E. Brummel, C.G. Hughes, E.E. Vasilevskis, A.K. Shintani,
K.G. Moons, S.K. Geevarghese, A. Canonico, R.O. Hopkins, G.R. Bernard,
R.S. Dittus, and E.W. Ely, for the BRAIN-ICU Study Investigators*

The burden



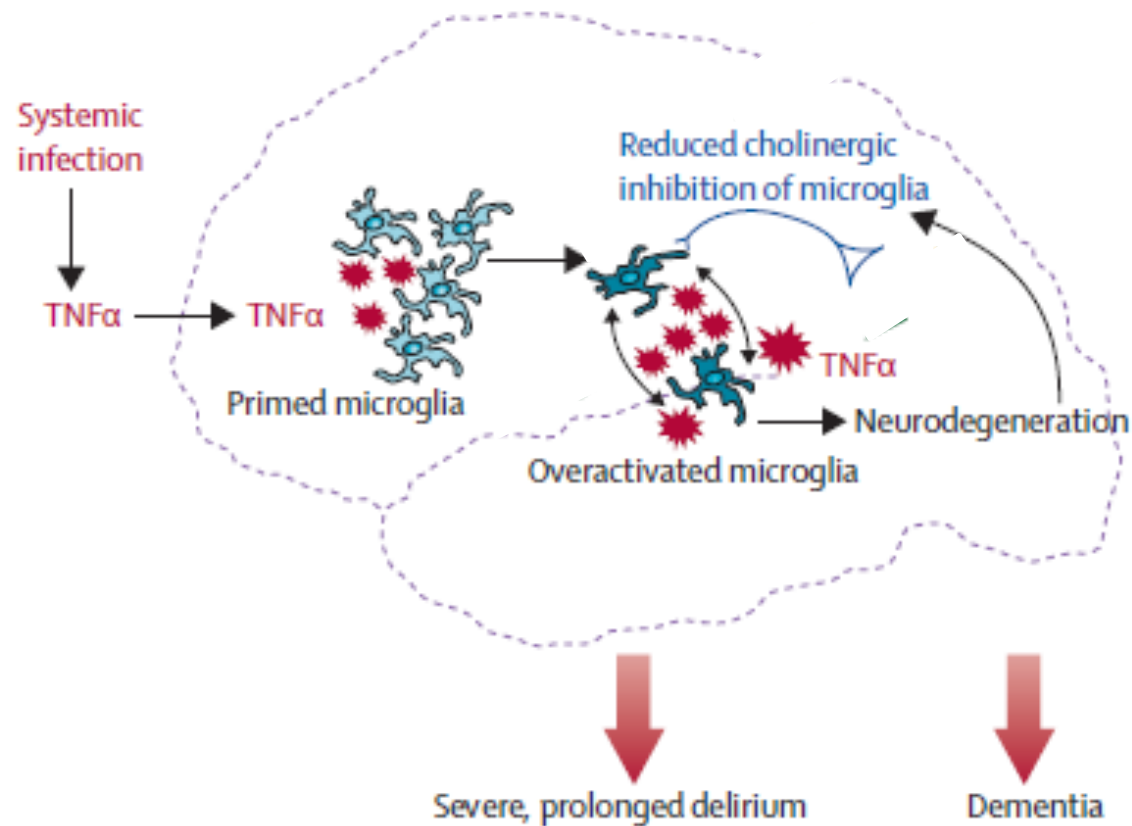
1. Neuro-Inflammation

A Normal situation



1. Neuro-Inflammation

B Old age, incipient neurodegenerative disease, or anticholinergic drug treatment



Future developments

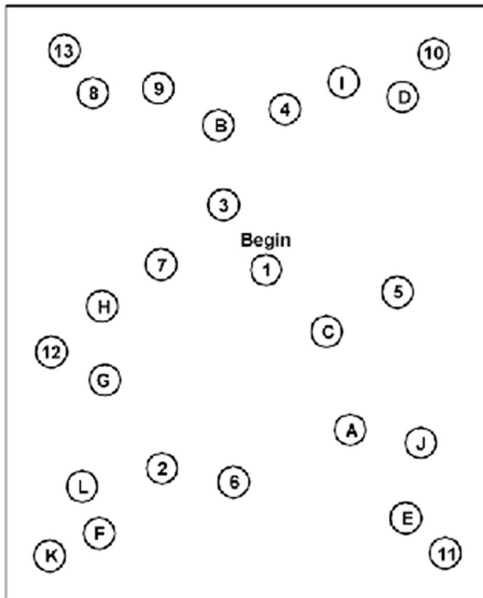
- Can we detect what really matters?
- Can we treat deficits?

Future developments

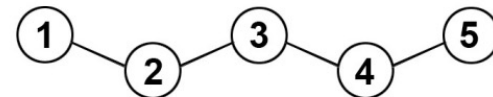
Performance on a neuropsychological test battery

Future developments

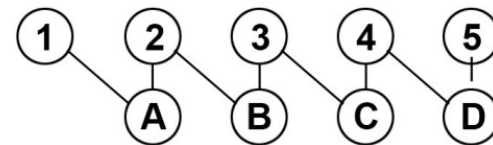
Performance on a neuropsychological test battery



Part A



Part B



Future developments

Performance on a neuropsychological test battery



\neq



Cognitive complaints

Future developments

Cognitive Failures Questionnaire

Very often	Quite often	Occasionally	Very rarely	Never
4	3	2	1	0

Do you find you forget appointments?

Do you forget where you put something like a newspaper or a book?

Do you daydream when you ought to be listening to something?

Do you find you forget people's names?

Do you start doing one thing at home and get distracted into doing something else (unintentionally)?

Do you find you can't quite remember something although it's "on the tip of your tongue"?

Do you read something and find you haven't been thinking about it and must read it again?

Do you find you forget why you went from one part of the house to the other?

Do you find you confuse right and left when giving directions?

Do you find you forget whether you've turned off a light or a fire or locked the door?

Do you fail to hear people speaking to you when you are doing something else?

Do you leave important letters unanswered for days?

Do you find you forget which way to turn on a road you know well but rarely use?

Do you fail to see what you want in a supermarket (although it's there)?

Future developments

Cognitive Failures Questionnaire

Very often	Quite often	Occasionally	Very rarely	Never
4	3	2	1	0

Do you find you forget appointments?

Do you forget where you put something like a newspaper or a book?

Do you daydream when you ought to be listening to something?

Do you find you forget people's names?

Do you start doing one thing at home and get distracted into doing something else (unintentionally)?

Do you find you can't quite remember something although it's "on the tip of your tongue"?

Do you read something and find you haven't been thinking about it and must read it again?

Do you find you forget why you went from one part of the house to the other?

Do you find you confuse right and left when giving directions?

Do you find you forget whether you've turned off a light or a fire or locked the door?

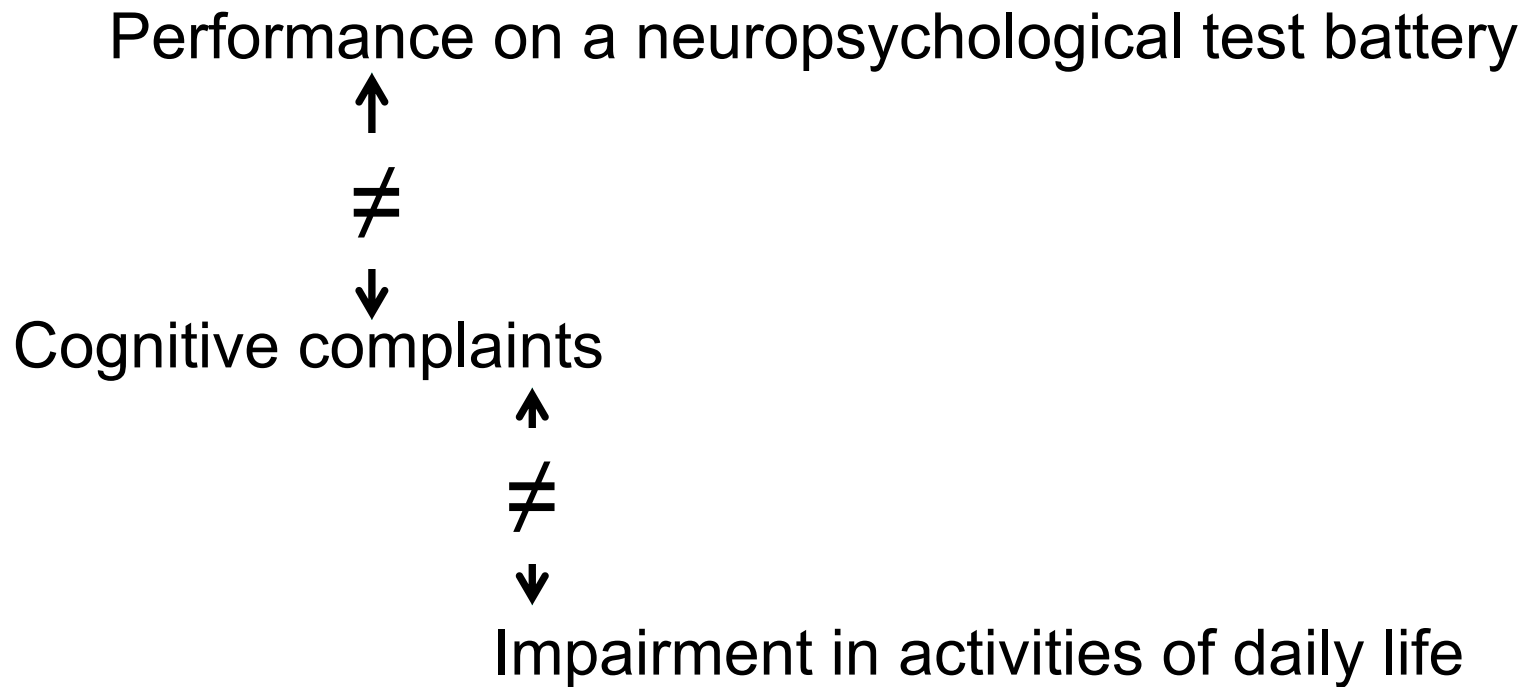
Do you fail to hear people speaking to you when you are doing something else?

Do you leave important letters unanswered for days?

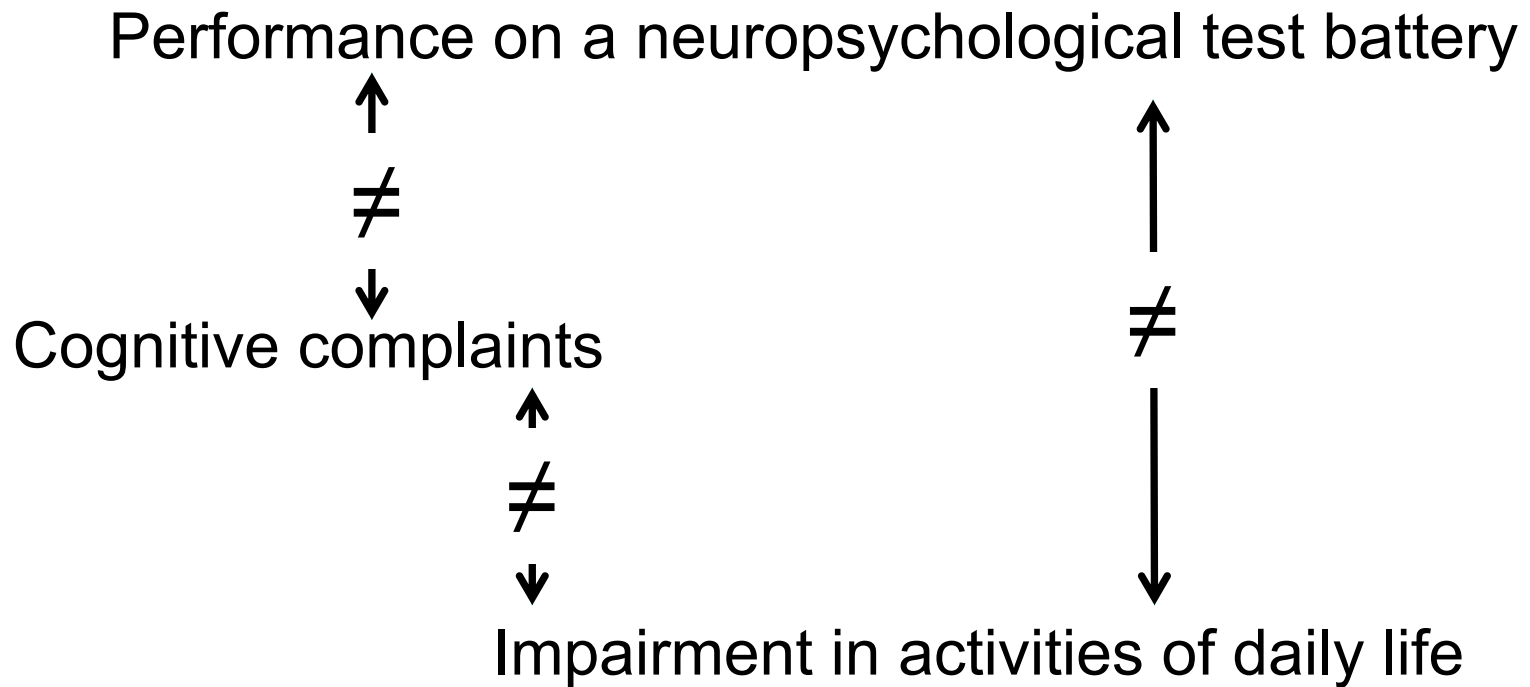
Do you find you forget which way to turn on a road you know well but rarely use?

Do you fail to see what you want in a supermarket (although it's there)?

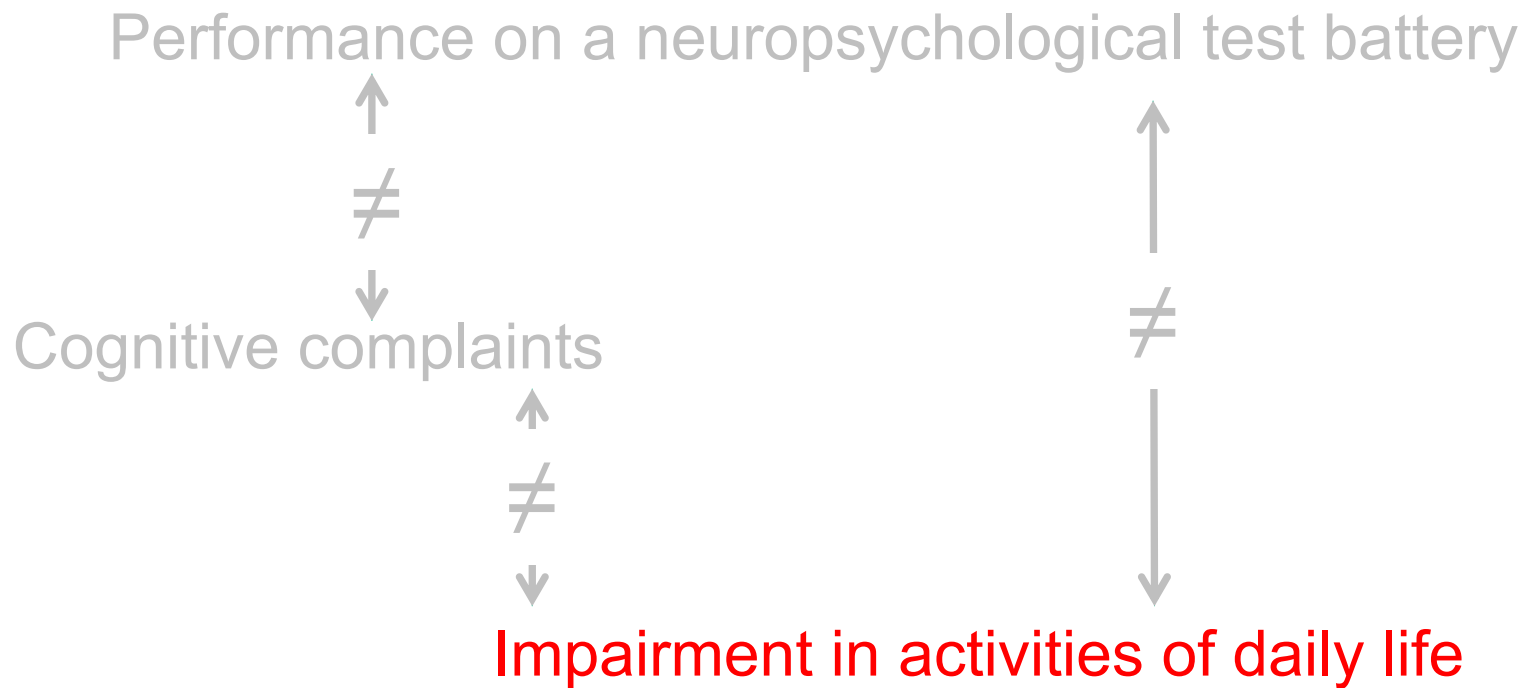
Future developments



Future developments



Future developments



Future developments



Shopping is demanding:

One needs:

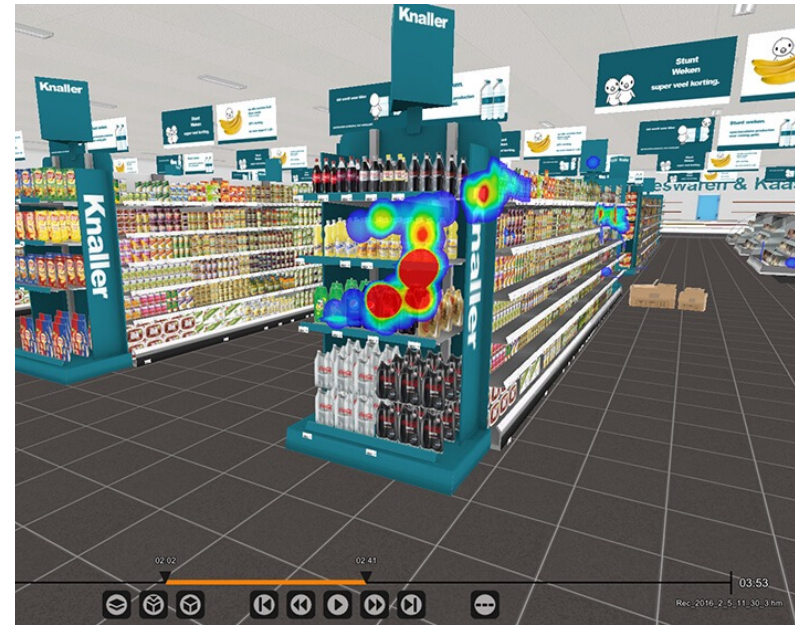
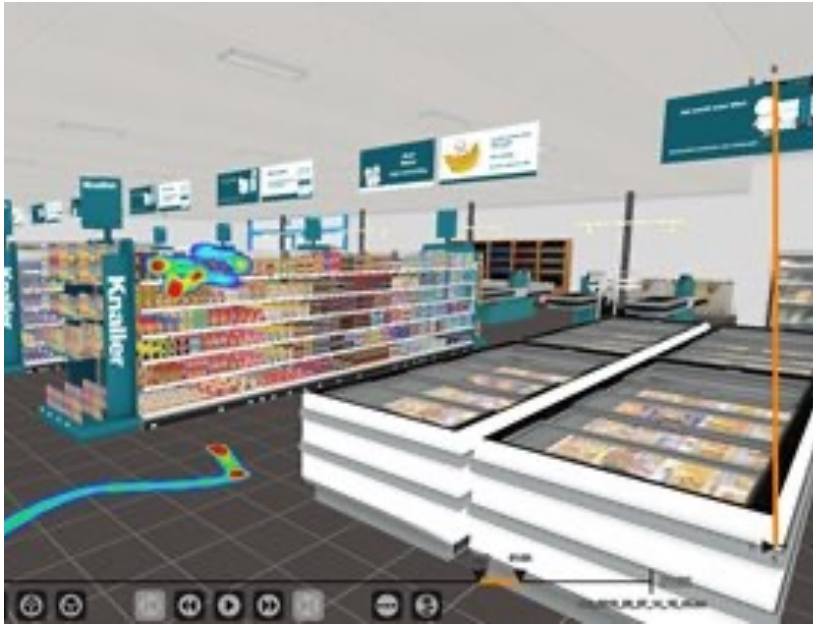
- Attention
- Language
- Memory
- Executive function

Future developments



Virtual reality for assessment of function and training

Future developments



Virtual reality for assessment of function and training

Conclusions

Conclusions

Long-term cognitive impairment is frequent after sepsis
persistence and therapy are unknown

Delirium may result from neuro-inflammation
neuro-inflammation may persist

New technology may be used for diagnosis and treatment
with direct relevance for daily life