

*11th World Congress on Neurology and Therapeutics  
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# The meaningfulness of cognitive processing speed in the assessment of cognitive impairment

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# Content

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- ❖ **Facts and fancies** on Alzheimer's disease & cognitive impairments
- ❖ What do 'all impairments' have in **common**
- ❖ What 'really' is cognitive processing speed
- ❖ How can we **assess cognitive** processing speed
  - ❖ **Importance** of the assessment
- ❖ **Take home messages**



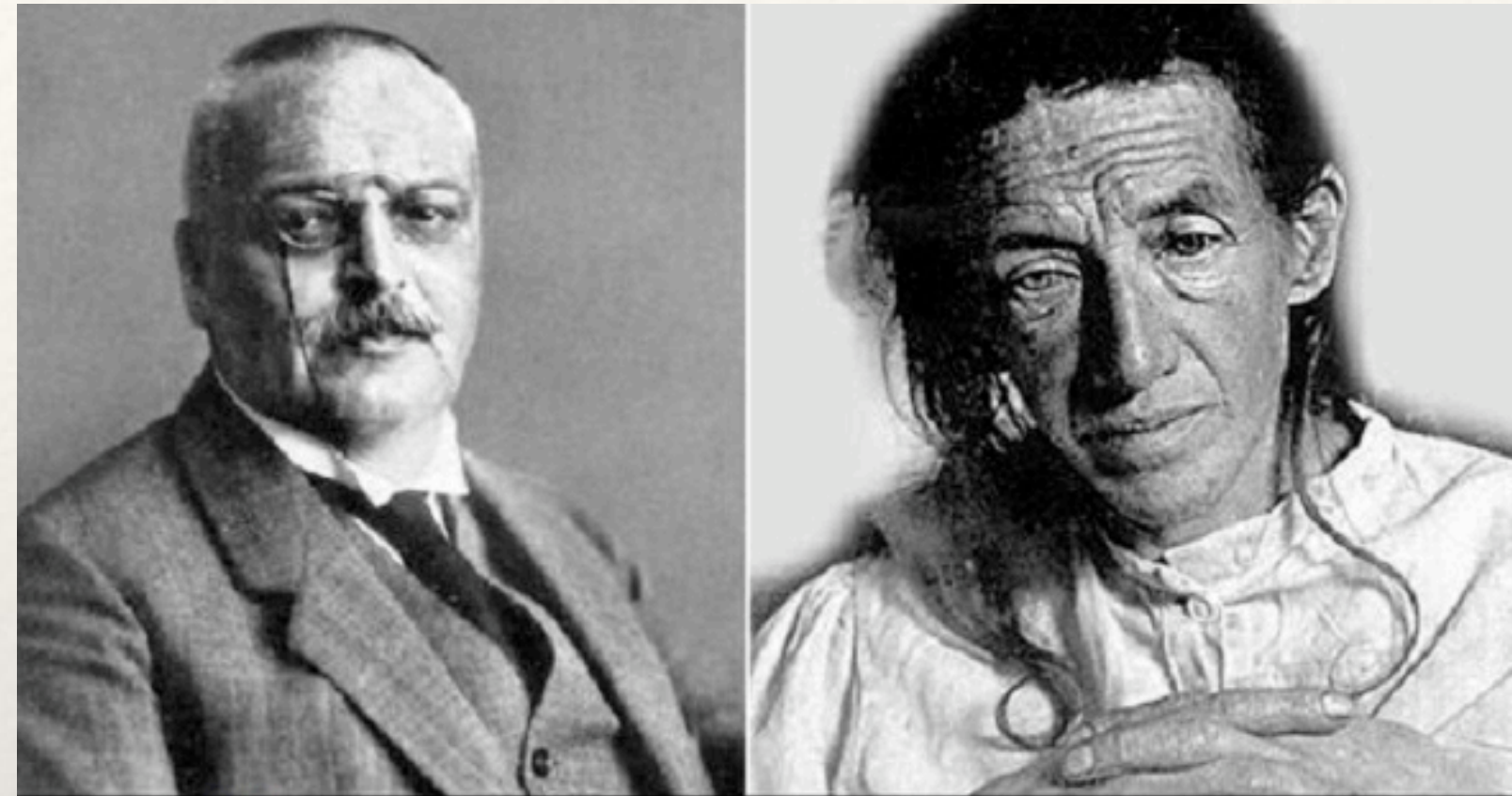
# Cognitive impairment and dementia



Ancient Greece

Hippocrates

460-370 BC



Alois Alzheimer &  
Auguste D.

1906



Genetics and  
molecular research

21st century

**Most of tests neuropsychologist use are based on the observation of certain cognitive abilities through others, such as memory and verbal skills.**

*– Molloy. et al., 1991*

**How often have we assessed cognitive function using time?**

**And, isn't time related to cognitive processing speed?**



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# What is TIME?

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**AND PROCESSING  
SPEED?**



“ It is the **time a person needs**, in equal environmental conditions, to **perceive** a simple, daily-known but not automated stimulus, **process it** and **respond to it** using their own cognitive resources.

(Buding, 2009; DeLuca, 2008; Luna, 2004; Ríos-Lago, 2012; Salthouse, 1996a; 1996b; Subirana, 2014; Wyatt, 2005)



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# Why is then, important to assess CPS?

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- ❖ Slowdown in processing speed **IS NOT**
  - ❖ a learning disability
  - ❖ an attentional problem, but
  - ❖ affects every single stage of learning.
- ❖ It may contribute to some learning disorders, like ADHD, dyslexia, dyscalculia, or an auditory processing disorder or to other disabilities such as AD, MCI or other neurodegenerative processes.
- ❖ Processing speed is also related to Autism spectrum disorders, and other pathologies like dementias or schizophrenia can also cause slow processing speed.
- ❖ Slow processing speed can affect everyday tasks like goal planning, problem solving, and reaching personal goals or others such as attention or memory.



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*To sum up...*

## Take home messages:



1. Slow processing speed can affect the ability to remember, pay attention or make decisions quickly.
2. Trouble with processing speed can affect a everyday's functioning skills.
3. Having your cognition evaluated can reveal problems with processing speed an can help to explain other disturbances, disabilities or impairments.

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# Thank You

