

Category : **Brain: Head trauma**

A280 - New therapy intensity level (til) scale coefficient calculator: a helpful, insightful tool.

N Peeters¹; S Meeuws²; S Vanvolsem²; T Menovsky³

¹AZ Klina, Intensive Care Unit, Brasschaat, Belgium, ²Jessa Hospital, Neurosurgery, Hasselt, Belgium,

³University Hospital Antwerp, Neurosurgery, Edegem, Belgium

Introduction:

In ICU, raised ICP is a frequently encountered problem for which different management strategies can be adopted.[1] Intensity of these interventions can be quantified using the TIL scale, a reliable measurement with a high degree of validity for assessing ICP management in patients with traumatic brain injury (TBI).[2] Studies showed significant centre variation in TIL treatments for patients with TBI, possibly reflecting aggressive use or inappropriate escalation strategies.[3]

Methods:

We developed a user-friendly TIL scale calculator to improve ICP management. Based on the intuitively started ICP management, current ICP and desired target ICP, a TIL-coefficient will be calculated, which will numerically and visually reflect whether past and current treatment is appropriate, inadequate or overly aggressive. Additionally, a TIL scale based algorithm can optimize ICP management. Hereby, inappropriate escalation or de-escalation could be avoided. The indication, relevance and ease of use of the TIL scale calculator was peer reviewed in three Belgian hospitals.

Results:

The TIL scale calculator, with both TIL-coefficient and TIL scale algorithm, resulted in more awareness regarding ICP management. The numerical and visual feedback of past and current ICP management and possible treatment modalities was an advantageous tool, leading to more evidence-based decision making. However, suggestions from the TIL scale based algorithm should always be critically assessed prior to implementation in daily clinical practice.

Conclusion:

This user-friendly TIL scale calculator is based on the TIL scale, which has been proven to be reliable and valid. Implementing this tool in daily clinical practice can lead to more specific and targeted ICP management. To assess reliability and validity of ICP management based on the TIL scale calculator, further studies are warranted.

References:

[1] Battaglini D. et al. *Frontiers in neurology* 2020.11.

[2] Zuercher P. et al. *J. Neurotrauma* 33,1-7.

[3] Huijben J. et al. *Crit care* (2021) 25:78.