

ANNEX 5: CRITICAL ANALYSIS OF AIM-T

The AIM-T was developed by HI with assistance from MSF in 2011; it is a battery of performance-based tests (PBTs) to assess physical function. Version 1 was implemented in Kunduz (Afghanistan) descriptive results were presented by Gohy et al in a 2016 paper.¹ This evolved into Version 2, details of which were presented internally within MSF at the Operational Research Day in May 2019.² Version 3 of the AIM-T is currently being used by MSF in Mosul.³

However, there is no scientific evidence of the validity and reliability of any version of this scale.

Our analysis of the AIM-T revealed the following additional issues:

1. Overall score: It is unclear how the threshold of 55/60 was determined and what it means (bad result at 54, good at 56?)
 - There is some redundancy in the valuation of some tests. A lower limb (LL) injury with deficit 'X' that prevents a score of 25 will also be reflected in the ability to perform core tests and achieving a score of 10.
 - The sub-tests included in this scale are limb specific:
 - o If more than one limb is injured, patient's score will never reach the threshold (55/60).
 - o Why is there a need to assess UL if the patient has only LL injury?
2. Part 1: Core Score 10/10
 - First PBT "Rolling over"
 - o How many would NOT score "5" in Rolling over PBT? (Basically, ZERO patients, especially at discharge).
 - o This test is more relevant to patients with spinal cord injuries, traumatic brain injury, strokes, etc. where they have challenges to achieve such a simple task comparing to trauma orthopedic cases. It is an insignificant test that has no added value to AIM-T for trauma patients in Mosul.
 - Second PBT "Sit up (supine to edge)"
 - o It is not clear, is it sitting up from the floor, or supine from bed?
 - o It is an insignificant test that has no added value to AIM-T for trauma patients in Mosul.
3. Part 2: Lower Limb Score 25/25
 - Second PBT "Kneel down and stand-up"
 - o Not clear how patient should kneel (single leg, both legs?)
 - o Almost ALL patients will score "0" at discharge if they have any type of LL injuries. This will affect the score out of 25 and will preclude patients from reaching the threshold of 55/60.
 - Fourth PBT "timed 10 m walk/move"

¹ Gohy, B., Ali, E., Van den Bergh, R., et al. *Early physical and functional rehabilitation of trauma patients in the Medecins Sans Frontieres trauma centre in Kunduz, Afghanistan: luxury or necessity?* Int Health, 2016. **8**(6): p.381-389.

² *Determinants of functional outcomes after trauma*. Operational research Day, Brussels, May 31, 2019.

³ This critique focuses on Mosul as more details are available from this project site.

- Why there is a need for such PBT when there is already a 50-ft walk test (14 m walk test)? Both are measured by time.

4. Part 3: Upper Limbs 25/25

- First PBT “Pick-up small objects and manipulate”
 - What is the definition of “small object” and “manipulate”?
 - It’s not clear what function this test measures.
- Third PBT “Reach Back and Grasp clothes”
 - What’s the mechanism for reaching back? Above shoulder, below shoulder?

5. Part 4: scoring system 0-5 points scale

- Not clear what is implied by “Independent, with difficulties”? Does ‘*difficulties*’ include pain, physical limitations, or both?

In essence this is an unvalidated scale that measures physical function only from an anatomical perspective. It does not take into account pain or functionality needed to execute the activities of daily living (ADLs). Currently, it is being administered at admission and discharge from the IPD (and not at a regular/specific period of the OPD physiotherapy treatment plan – e.g., at 3 months or 6 months etc.).

We recognize challenges exist to good data collection, but our conclusion is that the AIM-T is not fit for purpose, particularly when used alone, and fear that data collected will be of no added value to MSF.