On-pitch Assessment of Possible Head Injuries

UEFA Guidelines

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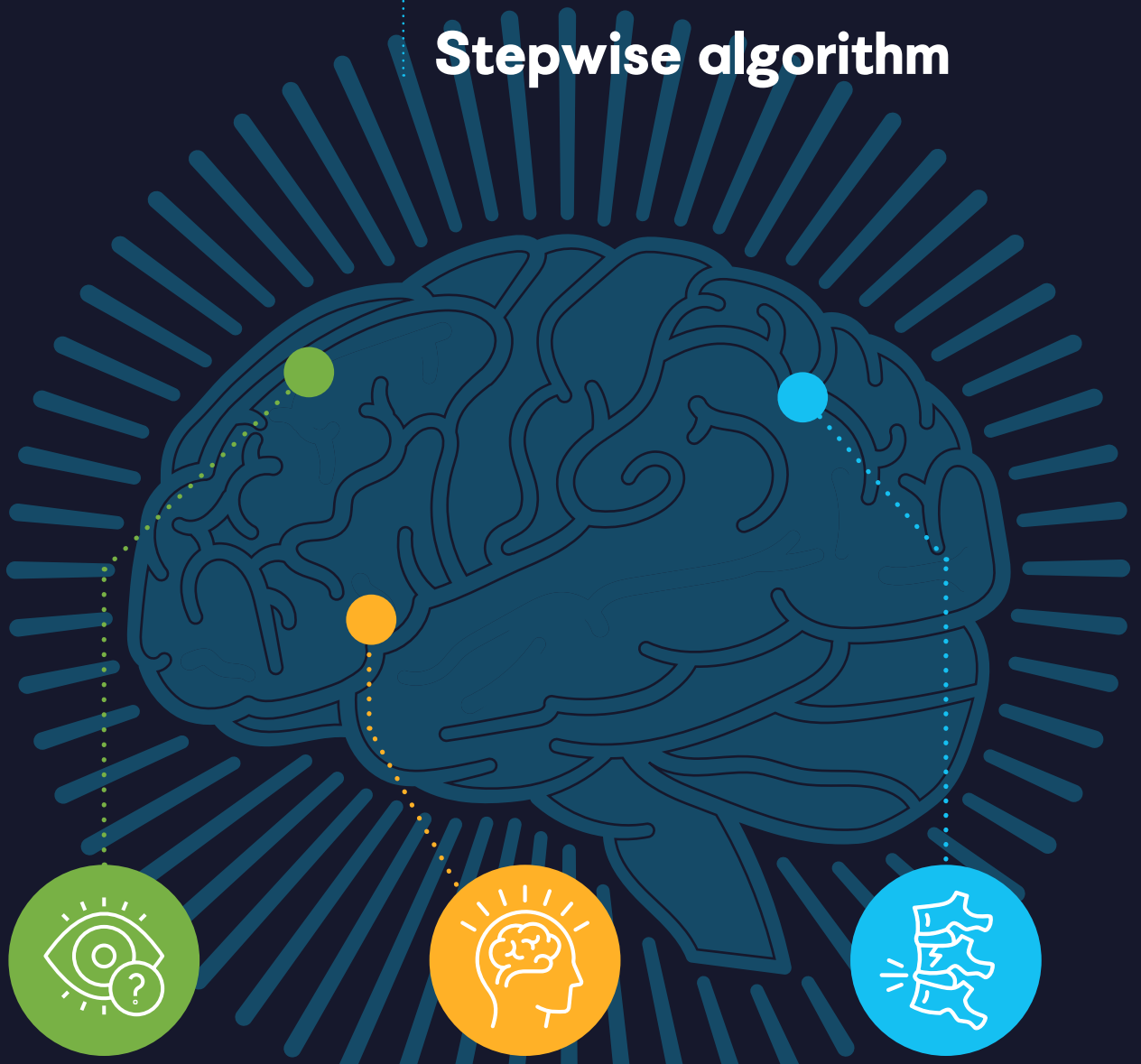
The aim of UEFA's Guidelines for the On-pitch Assessment of Possible Head Injuries

is to reduce the rates of head injuries that are missed during play and facilitate the best care for athletes as soon as possible. The **stepwise algorithm** outlined below aims to facilitate recognizing and removing players with potential traumatic brain injuries (TBI), most specifically concussions.

The approach is not intended to diagnose TBI but rather guides the screening process. Since sport-associated TBI is a highly dynamic field of research and other approaches may also be suitable to detect TBI, these UEFA guidelines and its components are intended to be minimal requirements for adoption by National Associations for an on-pitch assessment. UEFA and specifically its head injury expert group felt that it is important to provide some practical guidance in the interest of consistent care across European professional football.

If any of the steps described below reveal positive findings, substitutions and appropriate emergency care must be initiated immediately.

Stepwise algorithm



Step 1:
Review of 'Red Flags' & observable signs for TBI.

While approaching the player, review "**red flags**" and **observable signs**, if possible, by communication with the bench, as different team members may have different angles and can review video footage immediately after the impact. Wherever the Medical Video Review System (MVRS) is available, review of video footage of the incident **should be mandatory**

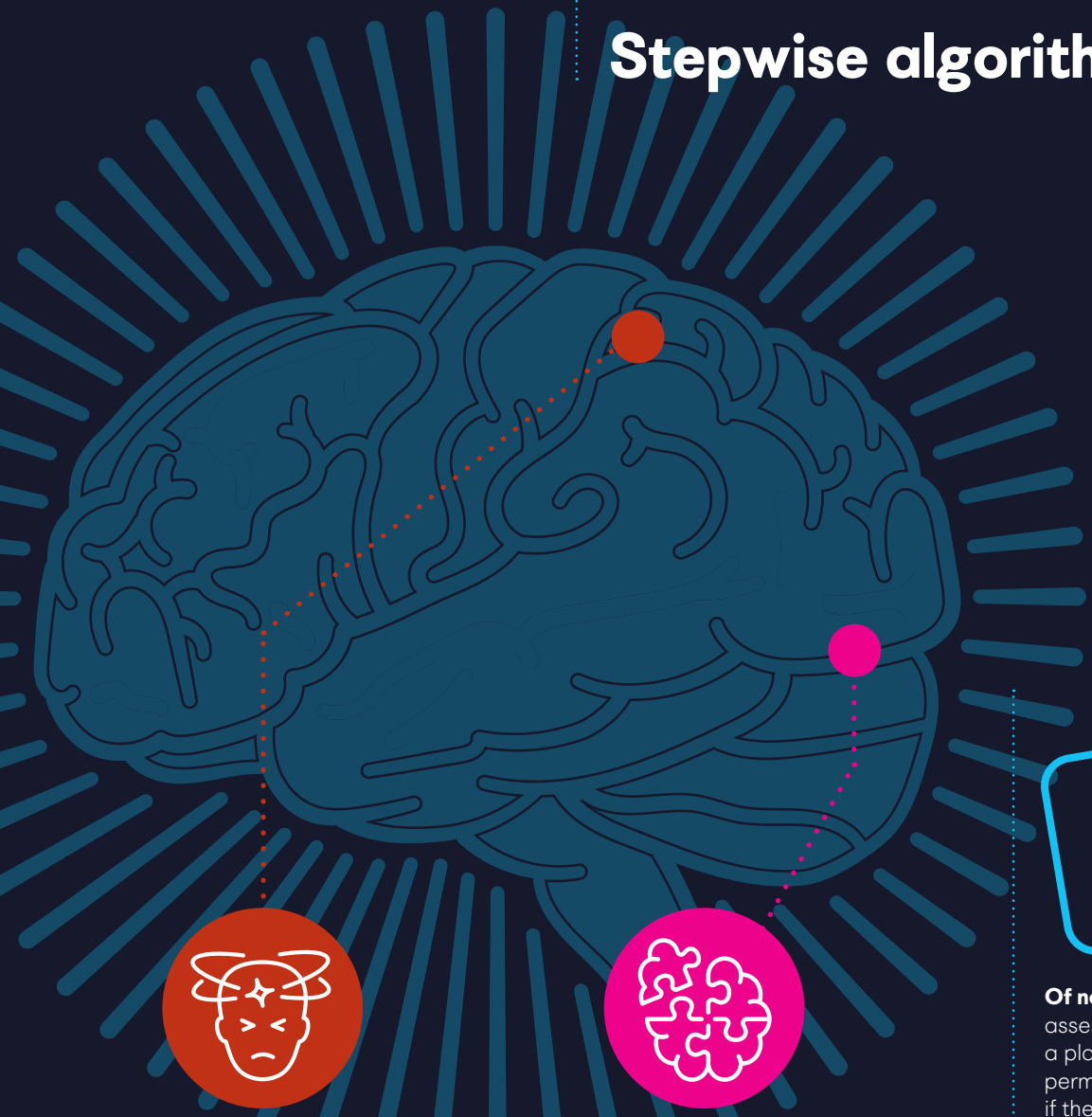
Step 2:
Assess Consciousness and Responsiveness

Consciousness and responsiveness to verbal and painful stimuli should be **assessed by the 'AVPU' system** (alert-verbal-pain-unresponsive). **Anything less** than an appropriate response mandates the **removal** of a player, **even if** the player improves to being fully alert later.

Step 3:
Cervical Spine Assessment

Proper cervical spine assessment **includes** an assessment of neck pain at rest, tenderness on palpation, full range of active pain-free movement and normal limb strength & sensation. The player **should be removed** if there is posterior midline cervical spine tenderness, the inability to achieve 45-degree lateral neck rotation in both directions, concern over the mechanism of injury or **if there** are distracting injuries.

Stepwise algorithm ctd.



Step 4:
Coordination & Oculomotor screen

Includes finger-to-nose tests (with both hands separately, eyes open & closed) as well as looking side-to-side and up-and-down. Specific **attention should be paid** towards presence of nystagmus, double vision, and **any amplification** or induction of symptoms. These tests may be performed **on-pitch** or **at the sideline**. While performing oculo-motor tests, subjective dizziness, fogginess or discomfort should be assessed for.

Step 5:
Memory & Cognitive assessment

Performed **by using the Maddock's questions** and **engaging** the player in a conversation. Assessment of encoding and recalling (for example 5 words) **is encouraged.** As the player stands, any sign of instability should be observed, and the player **should be asked** about symptoms of dizziness and light headedness.

Of note, even if the on-field assessment appears normal, a player **should be** removed permanently from the field of play, if the healthcare professional has any **suspicions** that the player might have sustained a concussion based on the assessment or knowledge of the player's change from **baseline condition**, history of **previous concussions** or if the video review suggests a mechanism of injury consistent with a **potential head injury**. A more conservative approach should be taken with players who are **under 18 years** of age or have a **history** of concussion, especially within the **last year**. Any player, who is **allowed** to continue to play after screening for a possible head impact, should be **closely observed** for the rest of the game / training and, if in **any doubt**, removed.

Appendix

Red Flags

- Neck pain or tenderness
- Seizure or convulsion
- Double vision
- Loss of consciousness
- Weakness or tingling/burning in arms or legs
- Severe or increasing headache
- Deteriorating conscious state
- Increasingly restless, agitated or combative
- Vomiting

AVPU system:

A Alert — **Alert** and Conscious

V Verbal — Responds to **Verbal** stimulus

P Pain — Responds to **Painful** stimulus

U Unresponsive — **Unresponsive** to any form of stimulus

Appendix

Finger to nose test:

"**I am going to test your coordination now**. Please sit comfortably on the chair with your eyes open and your arm (either right or left) outstretched (shoulder flexed to 90 degrees and elbow and fingers extended), pointing in front of you. When I give a start signal, I would like you to perform five successive finger to nose repetitions using your index finger to touch the tip of the nose, and then return to the starting position, as quickly and as accurately as possible."

Maddock's Y/N questions:

> "I am going to ask you a few questions, please **listen carefully and give your best effort**. First, tell me what happened?"

Further Questions:

What venue are we at today? Y / N

Which half is it now? Y / N

Who scored last in this match? Y / N

What team did you play last week / game? Y / N

Did your team win the last game? Y / N