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IWRF Medical Protocol – Autonomic Dysreflexia

Autonomic Dysreflexia (AD) is an unpredictable, potentially life-threatening condition whereby there is a sudden, rapid and uncontrolled increase in blood pressure. Autonomic dysreflexia is a medical emergency that can occur in people who have a spinal cord injury (SCI) at or above the sixth thoracic (T6) level. It is the body's abnormal response to a painful or harmful stimulus, such as an overfull bladder or bowel. This abnormal response causes abrupt rise in blood pressure. Before SCI, such stimulus would have caused pain or discomfort. However, with SCI, one loses feeling below the level of the injury. Therefore, the same stimulus goes unnoticed, and the body can't respond properly to signals that something is wrong resulting in AD . The resolution of AD requires quick and decisive treatment.

The Basic Principle in Autonomic Dysreflexia

"Any athlete who exhibits signs and symptoms of Autonomic Dysreflexia shall be removed from the event, and actions to bring down the elevated blood pressure should be initiated immediately."

Definition

- Autonomic dysreflexia (AD), with its sudden and severe rise in blood pressure, is a potentially life-threatening condition that can occur in anyone with a spinal cord injury (SCI) at or above thoracic level six (T6). It is a serious condition which if ignored or improperly managed can lead to serious consequences including death.

Athlete and team responsibilities

- Monitoring autonomic dysreflexia is primarily the responsibility of the athlete and his team and team medical personnel. This responsibility includes:
    - Measure and document athlete's baseline medical history to include Resting BP and HR as well as Exercise BP and HR
    - Ensuring that athletes are not dysreflexic prior to and during competition
    - Ensuring that their athletes are not using mechanisms intentionally which may cause or provoke dysreflexia (boosting)
    - Removing an athlete from competition if the athlete becomes dysreflexic
    - Cooperating with IWRF personnel in examining players who may be dysreflexic

Autonomic Dysreflexia Examination If Evidence of AD Symptoms

- The examination should be conducted by qualified medical or paramedical with knowledge of AD. Teams are required to provide any requested assistance.

- Examination should include an assessment of the presence of symptoms of dysreflexia, followed by measurement of the athlete's blood pressure. An athlete with a systolic blood pressure of 160 mmHg or above is considered to be in a hazardous dysreflexic state.
- Prior to competition
  - If systolic blood pressure is increased 20-40 mmHg above the athlete's baseline (15-20 mmHg in children) or measures 160 mmHg or higher, the athlete will not be permitted to play.
  - Causes of increased blood pressure will be investigated by the qualified medical or paramedical personnel and the athlete, and subsequent treatment pursued if the cause is identified.
  - A re-examination will be done ten minutes later. If, blood pressure remains above the base line, the athlete will be removed from the roster for that game.
  - If the blood pressure has declined to a non-hazardous level, the athlete will be permitted to enter the game at the next opportunity.

- During competition
  - An athlete may be examined at any time during the game.
  - All requests to test an athlete during a game are to be made to the athlete's Head Coach.
  - The Coach is should evaluate and cooperate will all such requests if deemed necessary.

Causes of Autonomic Dysreflexia

- Bladder distension
- Catheter blockage
- Urinary Tract Infection
- Urethral trauma
- Bowel distension/impaction
- Constrictive clothing, shoes, or equipment
- Insult to skin (pressure on skin by objects, sunburn, cuts, frost bites, blisters)
- Ingrown toenails
- Gatric ulcer/gastritis
- Pregnancy

Signs and Symptoms

- Sudden increase in blood pressure above normal (20 to 40 mmHg above baseline)
- Pounding headache
- Bradycardia (low heart rate below the individual's baseline)
- Profuse sweating above the level of injury (LOI)
- Piloerection (goose bumps) above the LOI
- Flushing of the skin above the LOI
- Cardiac arrhythmia (irregular heartbeats)
- Blurred vision

- Spots in visual fields
- Nasal congestion
- Feeling of apprehension or anxiety
- Minimal or no symptoms despite increase in blood pressure (silent AD)

Immediate Management Protocol

- Management must concentrate on identifying causation and removal of the stimulus.

- Lower blood pressure
  - Sit up if lying down
  - Take blood pressure and HR
  - Check the bladder status (is there anything causing abnormal drainage)
  - Take the blood pressure medication prescribed by the healthcare provider if indicated

- Remove the harmful stimulus
  - Unblock blocked catheters
  - Loosen restrictive clothing/tapes
  - Bowel disimpaction
  - Identify and remove pressure causing object(s)

Advanced Management Protocol

- If the player does not respond to immediate actions-: initiate local emergency medical protocol.

Non-AD Hypertensive athletes

- If an athlete with a spinal cord lesion has essential hypertensive, the athlete should obtain medical evaluation AND clearance prior to competition.

Boosting

- Boosting is the intentional induction of a state of autonomic dysreflexia with the aim of performance enhancement. This leads to significant increase in blood pressure prior to competition which can be life threatening. This is equivalent to a doping violation.

- Any deliberate attempt to induce autonomic dysreflexia in competition endangers the health and welfare of the athlete and team management should make this very clear to the athletes and staff.

- Boosting in competition is forbidden.

- If there is an evidence of deliberate attempts of boosting, this will be reported to IWRF for subsequent investigation.
- If there is any evidence of involvement by athlete support personnel in assisting an athlete's deliberate attempts to induce dysreflexia (boosting) will also be subject to investigation.

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