Clinical Notes

Air Support Surfaces for Spinal Cord Patients

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Spinal precautions are a common set of protocols used to care for the most critical trauma patients—especially those with suspected spine and/or neurological injury. EMS workers often use hard C-collars to align and stabilize the neck and a backboard to completely immobilize the patient's movement.

Precautions continue at the trauma center. The patient is carefully logrolled by the care team, with one team member maintaining head and neck alignment while the backboard is removed.[1] The key among at-risk patients is minimalizing movement or transfers and maintenance of spine stabilization if movement or transfers are needed.[2]

Most facilities have a protocol for spinal precautions which continue until a neurosurgeon has cleared the patient of injury or completed surgical stabilization. Customers will often ask: is it OK to place a patient with a spinal cord injury on an air support surface?

Stable vs. Unstable Injuries

The question back is fairly simple: is the patient's injury new, and if so, has the patient been cleared by a neurosurgeon? If the patient is still on spinal precautions, the patient MAY NOT be placed on an air support surface. Remember: an unstable spine needs stability.

An unstable spine also contraindicates the use of air transfer tools, patient repositioners, overhead lifts, and other mobility aides. If the patient is unstable, moving/transfer needs to happen with a team and typically on a backboard. Once a patient is cleared, an air support surface may be used.

Patients with Paraplegia or Quadriplegia

A similar question arises for patients with paraplegia (paralysis of the legs) or quadriplegia (paralysis of both the arms and legs). If the injury is new and the patient hasn't been cleared by a neurosurgeon, they MAY NOT be placed on an air support surface.

However, patients living with paralysis from an old injury may benefit from an air support surface. These patients are often partially or completely immobile, may have limited sensory perception, and are chair or bedbound. In other words, their Braden Scale score would put them among the highest risk for pressure injuries (PIs).[3]

In my experience, the neurological damage suffered by patients living with paralysis also leads to difficulty in managing body heat and sweat—contributing to discomfort and PI risk that can be mitigated by an air support surface.

Conclusion

Protecting a patient's spine until cleared of injury is of critical importance. Until a patient is cleared of spinal precautions, they should be limited to foam or gel surfaces. Following a neurosurgeon's OK, an air support surface may provide a greater level of healing comfort.

References:

1. Freeborn K. The Importance of Maintaining Spinal Precautions. (2005). Crit Care Nurs Q. 28(2);195-199.
2. EMS Spinal Precautions and the Use of the Long Backboard. (2012). National Association of EMS Physicians and the American College of Surgeons Committee on Trauma. Retrieved from www.facs.org/-/media/files/quality-programs/trauma/vrc-resources/9_backboardpositionpaper-final-approved_2012.ashx?la=en
3. Bergstrom N, Braden BJ, Laguzza A, Holman V. (1987). The Braden Scale for Predicting Pressure Sore Risk. Nursing Research. 36(4):205-210.

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