

## SPINAL MOTION RESTRICTION -- LOG ROLLING

### Introduction

The **log rolling** procedure is implemented on all patients suspected of having a possible spinal injury, prior to the cervical spine and/ or thoracolumbar spine being cleared.

The main principles underlying the log rolling procedure are the strict adherence to correct anatomical alignment in order to prevent the possibility of further, catastrophic neurologic injury, the prevention of pressure sores, and the safe performance of some medical interventions.

### Indications

Indications for the log roll manoeuvre include:

- Examination of the patient's back.
- Cervical collar care
- Pressure care
- To facilitate chest physiotherapy
- To facilitate medical interventions:
  - ♥ Such as the vomiting patient.

### Technique

1. A minimum of four staff members are required to assist in this procedure:
  - 1 to hold the patient's head and direct the procedure:
    - ♥ The head holder ensures that all of the team members are ready to turn in a coordinated manner (decide if rolling on three or after three).
  - 2 to support the chest, abdomen and lower limbs
  - 1 to carry out the planned activity i.e. pressure care etc.

- In some cases, (e.g. morbidly obese patients or patients with lower limb traction) **three** assistants may be required to support the chest, abdomen and lower limbs).
2. Explain the procedure to the patient regardless of conscious state and ask the patient to lie still and to refrain from assisting.
  3. Ensure that the cervical collar is well fitting prior to commencement.
  4. If applicable, ensure that devices such as indwelling catheters, intercostal catheters, ventilator tubing etc. are repositioned to prevent overextension and possible dislodgement during repositioning.
  5. If the patient is intubated or has a tracheostomy tube, airway suctioning prior to log rolling is suggested, to prevent coughing which may cause possible anatomical malalignment during the log rolling procedure.
  6. The bed must be positioned at a suitable height for the head holder and assistants.
  7. The patient must be supine and anatomically aligned prior to commencement of log rolling procedure.
  8. The patient's proximal arm must be adducted slightly to avoid rolling onto monitoring devices e.g. arterial or peripheral intravenous lines. The patient's distal arm should be extended in alignment with the thorax and abdomen (see below), or bent over the patient's chest if appropriate i.e. if the relevant arm is uninjured. A pillow should be placed between the patient's legs.
  9. Assistant 1, the assistant supporting the patient's upper body, places one hand over the patient's shoulder to support the posterior chest area, and the other hand around the patient's hips (see below).
  10. Assistant 2, the assistant supporting the patient's abdomen and lower limbs, overlaps with assistant 1 to place one hand under the patient's back, and the other hand over the patient's thighs (see below).
  11. On direction from the head holder, the patient is turned in anatomical alignment in one smooth action with the patient's head and body remaining in anatomical alignment at all times, (see below).
  12. On completion of the planned activity, the head holder will direct the assistants to either return the patient to the supine position or to support the patient in a lateral position with wedge pillows.

The patient must be left in correct anatomical alignment.



*Correct spinal alignment is indicated by the black line.*

## References

1. The Alfred Spinal Clearance Management Protocol, Helen Ackland, November 2009.
2. The Royal Melbourne Hospital Trauma Service Guidelines, May 2011, Version 3.0.
3. Peter E. Fischer et al. Spinal Motion Restriction in the Trauma Patient - A Joint Position Statement. Prehospital Emergency Care 2018.
  - [doi.org/10.1080/10903127.2018.1481476](https://doi.org/10.1080/10903127.2018.1481476)

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