The Queensland Ambulance Service has made a decision to review all aspects of spinal injury care, including modalities for prehospital immobilization of the spine.

Currently, rigid hard collars are universally utilized by emergency medical services worldwide. Routine immobilisation is not a benign procedure though. There is well documented evidence of common adverse effects of immobilisation including: discomfort, time delays, tissue ulceration, increased intracranial pressure, impaired respirations and in some cases actually causing spinal injury. It is also more likely to obstruct the delivery of necessary emergency interventions, including some forms of airway management.

The Princess Alexandra Hospital, our state-wide tertiary referral centre for spinal injuries, has considered all the available evidence and concluded the adverse event rate of rigid cervical collars significantly outweighed the potential benefits of this form of immobilization. On that basis, a move to using soft cervical collars was instituted within that hospital in 2009. This occurred with universal support from senior staff within the emergency department, intensive care, the orthopaedic spinal surgery service and the spinal injuries unit.

During the past 5 years no adverse events have been noted and a significant reduction in complications related to rigid cervical collars has been seen.

It is true that soft collars offer very limited immobilization of the cervical spine. Cadaver studies looking at rigid cervical collars have also questioned their ability to appropriately immobilize the cervical spine. Comparisons between soft collars and rigid collars have shown mixed results, with the weight of evidence demonstrating soft collars to provide minimal or no significant restriction in cervical motion. This is particularly the case in extension / flexion and lateral bending planes, when compared with rigid collars.

But the aim of the soft cervical collar is to act as a marker for staff to apply spinal care principles whilst minimizing equipment related adverse events.

It is important to recognize that a change to soft collars is not a downgrading of QAS spinal care. This change will form part of an overall reinforcement of appropriate spinal care and is accompanied by a new clinical practice guideline. The collars will be better tolerated by patients and more easily fitted. For patients who are unconscious or lack neck control, lateral support will be provided by paramedics. This change represents a patient centred approach supported by the literature and the medical experts who manage acute bony and spinal cord injuries within the Queensland Trauma System.

Introduction to cervical soft collars

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Clinical Practice Procedure

Cervical collar

A **cervical collar** is an orthopaedic device used to physically and consciously acknowledge the potential for c-spine injury. Although available devices may limit movement within the c-spine, no device has been shown to immobilise it completely.

There is a lack of evidence for the efficacy of spinal immobilisation in the prevention of spinal cord injury (SCI). There is evidence however that rigid collars can lead to significant complications and morbidity when used to immobilise the c-spine. These complications and difficulties with rigid cervical collars include:

- patient discomfort
- pressure areas
- increased intracranial pressure
- causing/worsening SCI (e.g. in ankylosing spondylitis)
- impaired ventilation
- aspiration risk
- masking of neck/occipital injuries.

Soft cervical collars mitigate some of these issues.

The **OAPL™ cervical soft collar** is a disposable single use device made from soft, open-cell foam plastic with a cotton stockinette cover and touch tape closure.

**Procedure – Cervical collar**

1. Gently align the patient’s head to a neutral anatomical position or position of greatest comfort.

2. Measure the distance between the base of the chin and the suprasternal notch.

3. Select the appropriate size collar by comparing the patient’s neck measurement to the width of soft collar’s chin support.

4. Slide the collar under the patient’s neck (right to left) until the adhesive Velcro strap is clearly visible.

5. Mould the soft collar around patient’s neck and secure the Velcro tabs.

**OAPL™ cervical soft collar**

**Additional information**

- The c-collar is an integral component of the approach to spinal care.
- The ends of a correctly sized **OAPL™** soft collar should meet or slightly overlap at the back of the patient’s neck.
- The QAS supplies **OAPL™** soft collars in the following sizes:

<table>
<thead>
<tr>
<th>Size</th>
<th>Height</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extra small</td>
<td>65 mm</td>
<td>480 mm</td>
</tr>
<tr>
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<td>90 mm</td>
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<tr>
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