The Bariatric Conundrum: Transporting big patients safely in the ambulance service

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1. Introduction

Paramedics perform heavy physical work in uncontrolled environments. There is a perception that the hierarchy of control can’t be applied to emergency services settings because their work environment is always different. Bariatric patients present unique challenges for emergency services because of the high forces and awkward postures associated with transporting them. Maguire et al. (2014) found that the paramedic profession is one of the most dangerous occupations in Australia, with a risk of serious injury more than seven times higher than the national average. Most of these injuries occur from lifting, and the injury risk in Australia is similar to that in the United States (Maguire et al., 2014).

This presentation explores the history and challenges of bariatric patient transport and the journey SA Ambulance has been through to source the appropriate equipment and transport platforms to move these patients safely. The logistics of bariatric transport in vehicles, helicopters, and planes are discussed, along with innovative solutions employed by the SA Ambulance Service to move these patients safely and comfortably.

2. Practice Innovation

The ambulance service realised in the early 21st century that conventional pre-hospital equipment, strategies and lifting techniques were not suited to larger patients. Air-assist equipment that was previously used only in hospitals was evaluated and used creatively to great effect in pre-hospital situations. Research and discussion with other ambulance services interstate and overseas led to new vehicles and better air transport platforms. This presentation will outline the various strategies and equipment implemented to transport bariatric patients safely via road or air. Solutions to assist, transfer, extricate, load and unload bariatric patients while avoiding lifting or other hazardous tasks are discussed. Because the SA Ambulance Service covers a wide geographical area regional solutions which can be implemented without the need for specialist bariatric vehicles are also presented.

3. Sources of Information

The number and acuity of bariatric patients increases each year. When the bariatric ambulance was introduced to South Australia in 2008 it was used about once per month. In 2013 the two bariatric vehicles responded to 1250 bariatric patients. Bigger patients are also transported in regular ambulances, helicopters, and planes. The term ‘bariatric’ refers to patients whose weight or anthropometrics prevents the use of regular equipment, or makes them challenging to move safely. The SA Health definition of ‘bariatric’ is someone who fits two or more of the following criteria: 1) Weight ≥ 120 kg 2) BMI (Body Mass Index) ≥ 40 3) Seated hip width > 51 cms (20”)

High risk bariatric patient tasks like raising, loading, and unloading laden stretchers, lifting and carrying patients on spinal boards or carry sheets are discussed, along with the corresponding strategies in the SA Ambulance Service manual tasks risk management system to avoid these tasks. Innovative equipment enables bariatric patients to be moved safely and comfortably. Different transport platforms (regular ambulances, specialist vehicles, helicopters and planes) and the ergonomic challenges and opportunities they present are discussed.
4. Findings

The perception that the hierarchy of control can’t be used in emergency services because of the uncontrolled environments that paramedics work within has been demonstrated to be false. Innovations to change the equipment, decisions and techniques that paramedics employ with bariatric patients to eliminate or reduce risks have enabled the safe care and transport of large patients.

Alternatives to high risk bariatric patient tasks are presented, from specialist bariatric vehicles to equipment that can be used in conjunction with regular ambulances and helicopters or patients that don’t require transport to hospital.

The SA Ambulance Service has seen a marked reduction in lost time injuries by removing high risk work practices and providing alternatives for paramedics to utilise. The graph below shows the number of body stressing (manual handling) claims and the lost time injuries for the last 6 years.

![SAAS Lost Time Body Stressing Injury Trends](image)

Figure 1. Body stressing claims and lost time injuries for the last 6 years.

5. Discussion

Bariatric patients present unique manual tasks risks, but these can be controlled effectively in ambulance services. Air-assist equipment that has traditionally only been seen in hospitals can be very effective in pre-hospital situations with a little ingenuity. Training paramedics to recognise the high forces and awkward postures involved in many bariatric tasks and providing effective alternatives creates markedly better results than the old paradigm of teaching them to ‘lift right’ or ‘lift with more people’. Effective control measures being implemented in the SA Ambulance Service are presented and discussed.

References