Medstrom Healthcare

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What is the true definition of a "low" bed and how effective are they at reducing risk?

This Theory session with practical elements is aimed at Adult Care in an Acute and community setting at Novice and Experienced Trainers and Strategic Advisors

Biography :

Debbie Newcombe is a nurse with a valid NMC registration with significant experience in the NHS, particularly in ITU. In recent years has Debbie transitioned into the commercial sector, working with tissue viability nurses, manual handling teams, ITU nurses etc to match specialist products to clinical needs to ensure best possible patient outcomes.

Abstract :

Introduction:
Low beds are a widely accepted tool in falls prevention and harm reduction due to the inherent shorter fall height and thus a lower impact force. Because of the growing emphasis on the cost of falls, the importance of selecting the most appropriate bed for vulnerable patients is paramount to tackling one of the main drivers of the forecasted increase in age-related pressures on healthcare.
A low bed should provide two benefits for patients:
 - An optimal height to mobilise from the bed
 - A minimum height that is low enough to reduce the risk of fall-related injury

Methodology
1.   To safely mobilise a patient from a bed the patient's feet should be firmly on the floor whilst they are sitting at the edge of the bed. The height at which the bed should be positioned to achieve this is equivalent to the patient's popliteal measurement. Therefore, we can conclude that the distribution of popliteal heights of the population should dictate the minimum height required of a bed and mattress combination.
        Published popliteal height data has been analysed to determine the proportion of the population that would be able to achieve a safe position (feet flat on floor) with beds of varying low heights from 21cm to 38cm.
2.   We can determine the relative risk of injury by using a simple physics equation to predict the relationship between bed height and harm from a fall. Gravitational potential energy (GPE) is defined as the energy an object possesses due to its position in a gravitational field and is directly proportionate to the height from which an object falls.
        The relative increases in GPE based on bed heights from 21cm to 38cm have been calculated.

Results
A bed height of 21cm provides an optimal mobilisation height for more than 99% of males and 96% of females. A platform height of 38cm provides optimal mobilisation height for less than 1% of males and females.
A bed with a minimum height of 38cm would increase GPE of a fall by 49% versus a bed height of 21cm.

Discussion and Conclusions
With 40% of the acute patient population being 65 years and above – a percentage that is growing year on year – there is a strong argument for institutions to consider a bed fleet that comprises of an appropriate proportion of 'true' low beds in order to offer protection for those most at risk from falls.

Objectives :

To raise awareness of how bed height can influence the potential for safe mobilisation based on the population's popliteal height
To raise awareness of how bed height can influence impact force of a fall