

14: Pressure Sores in Spinal Patients Admitted to Intensive Care—A Retrospective Observational Study

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INTRODUCTION

What are pressure sores?

The National Pressure Injury Advisory Panel define them as:

“localized damage to the skin and underlying soft tissue usually over a bony prominence or related to a medical or other device”

They can be staged from 1 to 4 (1)

Why are pressure sores important?

- Patient comfort and safety
- Secondary injuries and therefore should be prevented
- NHS cost burden—compensation payouts

Spinal patients on ICU have a risk of developing pressure sores due to the following reasons:

- Long periods of immobility
- Sensory deficits
- Paraplegia/tetraplegia/quadriplegia

Other studies have reported occurrence rates at 19.1% and 37.5% (2)(3)



<https://www.nhs.uk/conditions/pressure-sores/>

Non-pressure sore patients (n=82)	Pressure sore patients (n=15)	Statistical test	Significance
Mean total days in hospital			
64.17 days (SD=102.08) Range: 1 - 555	212.87 days (SD=249.66) Range: 20 - 870	Independent sample t-test	$P < 0.05$ 95% CI (9.10, 288.29)
Mean days in ICU			
10.06 days (SD=9.26) Range: 1 - 41	51.00 days (SD=48.21) Range: 7 - 172	Independent sample t-test	$P < 0.05$ 95% CI (29.08, 51.87)
Mean age on admission			
48.49 years (SD=19.65) Range: 16 - 84	59.27 years (SD=16.08) Range: 26 - 83	Independent sample t-test	$P < 0.05$ 95% CI (0.10, 21.46)
Mean days on advanced respiratory support in ICU			
7.05 days (SD=8.34) Range: 0 - 37	34.47 days (SD=28.80) Range: 0 - 98	Independent sample t-test	$P < 0.05$ 95% CI (11.39, 43.44)

Table 1: Results table to show data analysis of those who developed pressure sores vs those who did not

RESULTS

There were 102 patients on the spinal database

- 2 excluded for being misreported as spinal patients
- 3 excluded due to still being in hospital at time of study

A total of 97 spinal patients admitted to ICU were included

- **15 of these developed pressure sores in ICU (15.5% or just over 1 in 7)**
- **The majority of the 15 (n=12) had at least one injury involving the cervical spine**

The following data was collected and compared between the spinal patients who developed pressure sores in ICU (n=15) and those who did not (n=82)

- Mean days in hospital
- Mean days in ICU
- Mean age on admission
- Mean days on advanced respiratory support

All of the above were significantly different between both groups (all $P < 0.05$) as shown in the results table



<https://www.nhs.uk/conditions/pressure-sores/>

CONCLUSIONS

It is evident that spinal patients in the intensive care unit have a significant risk of developing pressure sores, particularly when spending long periods in hospital and on ICU. Longer times on advanced respiratory support and older ages on admission appear to also be linked with development of pressure sores.

Clinicians and ward staff should be aware of these risks in spinal patients and aim to prevent the occurrence of these injuries, rather than treating at the point of occurrence. This would also be mutually beneficial for both patient comfort and the NHS cost burden of these injuries, since compensation payouts and cost of treating these injuries is significantly high.

REFERENCES

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AIMS

- To assess prevalence of pressure sores of spinal patients admitted to ICU at a tertiary care hospital in Wales
- Access NHS mandated DATIX databases to cross-reference all ICU pressure sores with a separate list of spinal patients admitted to ICU
- Time period: January 2018 to August 2022
- Analyse the data and demographics

CRITERIA

Inclusions:

Pressure sores grade 2 and above
Any decubitus ulcers over bony prominences such as occiput, sacral, heel, chin, neck, clavicle.

Exclusions:

Grade 1 pressure sores and pressure sores caused by intubation including but not limited to the mouth

METHODS

1. A database was produced of all spinal patients admitted to ICU at the hospital between January 2018 and August 2022
2. A database was then developed from DATIX reports for **all** pressure sores reported in ICU between this timeframe, regardless of admission reason
3. Both databases were cross-referenced to determine how many spinal patients admitted to ICU developed pressure sores
4. Information regarding grade, location & demographics were taken from DATIX and hospital notes
5. SPSS was used to analyse data