



iCAHE JC Critical Appraisal Summary

Journal Club Details

| | |
|---------------------------|---------------------------------|
| Journal club location: | Hampstead Rehabilitation Centre |
| Journal club Facilitator: | Dani Gyss |
| Journal club Discipline: | OT |

Article/Paper

Crane, B.; Wininger, M. & Call, E. (2016). Orthotic-Style Off-Loading Wheelchair Seat Cushion Reduces Interface Pressure Under Ischial Tuberosities and Sacrococcygeal Regions. Archives of Physical Medicine and Rehabilitation. 97:1872-9.

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| Ques No. | Yes | Can't Tell | No | Comments |
|----------|-----|------------|----|---|
| 1 | ✓ | | | <p>Was the purpose stated clearly?</p> <p>The main objective was to measure the interface pressure characteristics of this offloading cushion and compare them to the flotation style seat cushion that is commonly used for pressure ulcer prevention in wheelchair users.</p> |
| 2 | ✓ | | | <p>Was relevant background literature reviewed?</p> <p>The background discusses the issues of pressure ulcers for wheelchair users, the current seating technology which relies on flotation principles and seating designed for off-loading.</p> |
| 3 | ✓ | | | <p>Describe the study design. Was the design appropriate for the study question?</p> <p>A repeated measure design study was used. This is appropriate given the aim of the study.</p> |
| 4 | ✓ | | | <p>Was the sample described in detail? Yes – refer to page 1875 for a complete overview.</p> <p>Describe ethics procedures. Was informed consent obtained?</p> <p>Approved by the institutional review board and all participants provided informed consent prior to taking part in this study.</p> |

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|---|-----------------|--|--|
| 5 | ✓ | | <p>Specify the frequency of outcome measurement (i.e., pre, post, follow-up) Were the outcome measures reliable? Were the outcome measures valid?</p> <p>Primary outcome measures used in this study included the PPI, ischial tuberosity peak pressure, and the dispersion index. The dispersion index characterizes the percent of pressure distributed under the bony prominences (ischial tuberosities and sacrococcygeal region) of the pelvis compared with the total pressure under all areas of the seat; this measure was selected for its unique ability to evaluate the effectiveness of the off-loading properties of the wheelchair seat cushion. Although the dispersion index is a newer measure and has <u>not yet been fully validated</u> as an extrinsic pressure ulcer risk factor, the more commonly used PPI and ischial tuberosity peak pressure and have been widely used to assess interface pressure risks in a seated environment. Finally, we included 2 additional summary measures (contact area and average pressure) with only modest relevance to a focal study on pressure redistribution, but whose reporting helps to provide valuable context related</p> <p>This study is limited by the lack of a universally accepted interface pressure parameter directly tied to pressure ulcer risk. Although several measures were used in the study, each with wide use by the community, and each with some support in the current literature for metric validity, there is simply no criterion standard measure definitively tied to pressure ulcer risk.</p> |
| 6 | | | <p>Intervention was described in detail? NA</p> |
| 7 | ✓ | | <p>Results were reported in terms of statistical significance? Yes</p> <p>Were the analysis method(s) appropriate? Appropriate analysis given the aim of the study. However, note the parameters they measured and analysed. Are these all the parameters that should be considered?</p> <p>What was the clinical importance of the results? Were differences between groups clinically meaningful? Journal Club to Answer.</p> |
| 8 | | | <p>Did any participants drop out from the study? NA</p> |
| 9 | Journal club to | | <p>What did the study conclude? Conclusions were appropriate given study methods and results?</p> |

| | | |
|----|---------|--|
| 10 | discuss | What do the study findings mean to practice (i.e. clinical practice, systems or processes)? |
| 11 | | What are your next steps? (e.g. evaluate clinical practice against evidence-based recommendations; organise the next four journal club meetings around this topic to build the evidence base; organize training for staff, etc.) |
| 12 | | What is required to implement these next steps? |

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