**Literature search results**

Please let me know if you’d like any of the listed articles in full-text

(If you’d like to be sent any subsequent articles that are published on this topic please contact me and I will set you up with an emailed alert).

<table>
<thead>
<tr>
<th>Question</th>
<th>What evidence is there to support the use of exercise bikes in critical care / intensive care?</th>
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<tr>
<td><strong>Summary of evidence found</strong></td>
<td>To date not a lot has been published on this although several trials are currently underway to investigate the outcomes of in-bed cycling in critical care. Of what has been published in the literature much is looking at safety and feasibility of the intervention rather than outcomes at this stage.</td>
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| **Most useful information** | This 2009 study found: “Early exercise training in critically ill intensive care unit survivors enhanced recovery of functional exercise capacity, self-perceived functional status, and muscle force at hospital discharge.”

![Burtin article.pdf](Burtin article.pdf)

Small Portuguese trial of 38 patients (published 2017) found: “the performance of continuous passive mobilization on a cyclical basis helps to recover peripheral muscle strength in ICU patients.”

[https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5474377/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5474377/)

News type article from Queen Elizabeth Hospital, Birmingham led by Physiotherapist David McWilliams [david.mcwilliams@uhb.nhs.uk](mailto:david.mcwilliams@uhb.nhs.uk) on early mobilisation for critical care patients including a case study of a patient who used a bike. The overall physiotherapy project: “The improved clinical outcomes have been associated with a reduction of almost eight days in the average length of stay for each patient. This has increased capacity in ICU and on the wards, and is estimated to have saved the trust more than £2 million.”


Also see attached HDAS results 2, 3 and 8 for articles about outcomes for in-bed cycling including a comparison of cycling with different types of rehabilitation, improvement in balance and other physiotherapy outcome measures such as grip strength.

Articles 1 and 14 look at the positive patient experiences from the in-bed cycling exercise.

| **Additional information** | This is a news article about Newport Hospital’s exercise bike programme including a video clip led by Physiotherapist Sara Biggs [sara.biggs@wales.nhs.uk](mailto:sara.biggs@wales.nhs.uk)

See attached HDAS results articles 4-7, 13, & 15-19 for trials looking at the safety of cycling in intensive / critical care patients.

**This may also be of interest**

Canadian researchers are currently enrolling patients for a study on clinical outcomes of early in-bed cycling but the results won’t be published for another few years: [https://clinicaltrials.gov/ct2/show/NCT03471247](https://clinicaltrials.gov/ct2/show/NCT03471247)


Australian trial protocol [https://bmjopen.bmj.com/content/7/10/e017393](https://bmjopen.bmj.com/content/7/10/e017393)

**Search strategy**

I searched the AMED, Cinahl and Embase databases and conducted a general internet search.

**Enclosed**

[PDF](#)

HDAS results.pdf

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