

The Re-Use of Circular External Fixator Components: An Assessment of Safety and Potential Savings

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Purpose: Our objective was to determine the cost savings and mechanical failure associated with the re-use of circular external fixation components.

Methods: A retrospective review of a prospectively collected database was undertaken to identify all adult patients treated with ring fixators between January and December 2017. All cases in which a Smith & Nephew Ilizarov or Taylor Spatial Frame circular external fixator was used were included. The indications for and duration of external fixation was determined for each patient. The cost of each frame was calculated from the company invoice for the new components used. Cost savings were calculated as the difference between the price for a complete new frame and the amount invoiced for the new components only in a re-used frame. We also determined mechanical failure events associated with the re-use of these components.

Results: A total of 34 lower extremity circular frames were included. The average duration of external fixation was 36 weeks. Using re-used components led to significant cost savings per case. No mechanical failure of any of the re-used components occurred during this study.

Conclusion: The majority of circular external fixators are used for an extended period of time. Given the considerable expense associated with new external fixation frame components, the practice of re-using external fixator components is safe and resulted in significant cost savings to our institution and should be supported.