

Cost-effectiveness of RECELL[®] Autologous Cell Harvesting Device (ACHD) Versus STSG for Treatment of Severe Burns in the United States



Conclusion

Use of ACHD to produce an autologous skin cell suspension alone and in combination with STSG (current management) reduces hospital costs and length of stay (LOS) for burns (TBSA>10%) in the US.

Figure 1: Relative cost per patient of current management versus ACHD by TBSA and depth

Key point: Use of ACHD is expected to reduce costs across TBSA ranges for FT and DPT patients, with relative savings increasing as TBSA increases.

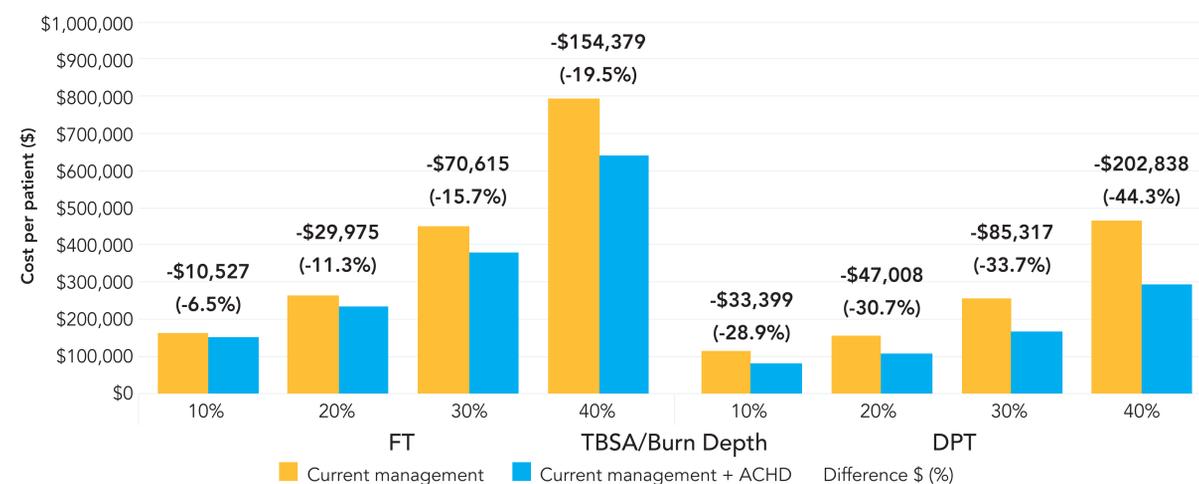
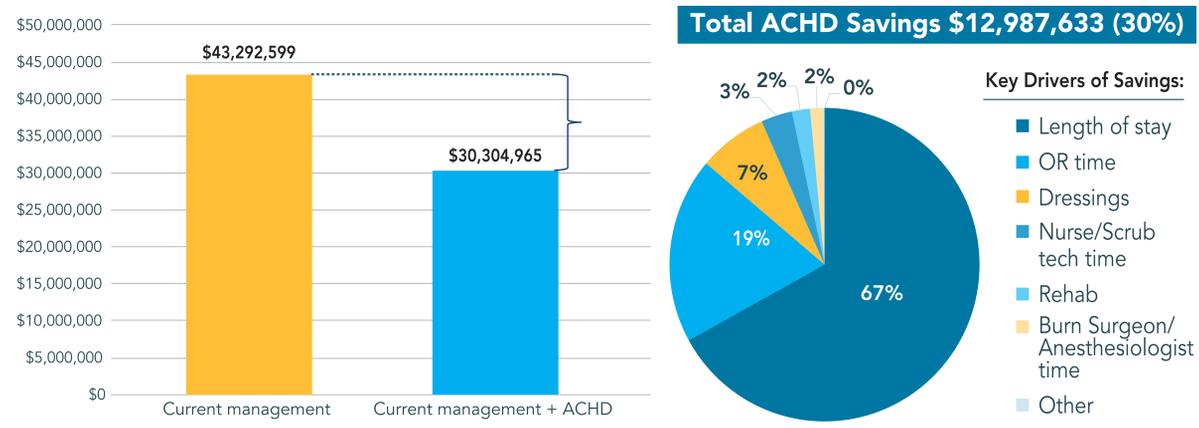


Figure 2: Annual budget impact of current management versus ACHD for a burn center with 200 patients

Key point: Considering the expected mix of adult patients entering a typical burn center each year (as informed by NBR data), use of ACHD in burn management is expected to reduce costs overall.



Significance Statement

- A health economic model of the US burn care pathway was developed to project the economic value of new burn care interventions versus standard of care. This is a valuable tool due to substantial burn management costs.
- This study projects costs and clinical outcomes to assess cost-effectiveness and burn center budget impact for using current management (STSG) vs management including ACHD to treat deep-partial thickness (DPT) and full-thickness (FT) burns, respectively, for adults with TBSA >10%.

Data Sources and Results

- The hospital-perspective model uses sequential decision trees to depict the acute burn care pathway. There are four key distinct phases: wound assessment, debridement/excision, temporary coverage and permanent closure.
- Clinical inputs are randomized controlled trials, burn surgeon surveys and interviews, and the ABA National Burn Repository (NBR). Costs were from 3 burn hospitals.
- Not considering the cost of the device, treatment with an ACHD was cost-saving for all burn patient profiles. For a hypothetical burn center with 200 patients reflecting NBR adult characteristics TBSA 10-60%, savings were projected to exceed \$12.9M (30%).

Lessons Learned

- Overall, RECELL[®] ACHD reduces costs associated with current treatment, particularly for greater TBSA burn injuries and DPT requiring autografting.
- Savings reflect decreased LOS, number of autograft surgeries, donor site size and associated wound care, and reduced rehabilitation needs.
- Real-world data for the US would improve future analyses. Costs and procedure data from more burn centers would also increase generalizability.

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