

Autologous Skull Flap Storage in Hospitals

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Objective: To identify hospitals that currently have active autologous skull flap storage programs, to compile relevant storage and re-implantation data, and to offer accredited tissue bank assistance to any hospital that is interested in an external audit of their current autologous program.

Background: More than 40,000 cranial surgeries are performed in the United States each year (Buczko, 2005). Stored autologous tissue is considered beneficial to the patient because autologous tissue is more easily incorporated than other options because the flap matches the curvature of the patients existing wound allowing for a more congruent fit, and is more cost effective than synthetic options. Limited supply, infection and human error associated with storage & labeling could result in negative outcomes. Strict protocols and direct oversight involving stored autologous tissue is required and should be in place before any retrievals or storage is attempted.

Mid South Tissue (MST) located in Memphis, Tennessee has a successful program that accepts autologous bone flaps from local medical facilities and works diligently to educate and train participating hospitals on all current Food and Drug Administration (FDA), American Association of Tissue Banks (AATB), and the Joint Commission guidelines pertaining to autologous storage.

Method: MST performed a telephone survey to identify hospitals with autologous skull flap storage programs, the volume of skull flaps being stored per year, the method of storage, and to identify if hospitals were interested in an audit of their current autologous program to ensure all current standards are being met.

Only medical facilities rated as trauma one or two status were selected to be sampled. Facilities were chosen from a list provided by the American College of Surgeons, www.facs.org.

Results: 72 telephone surveys were conducted throughout 28 states, with a response rate of 56 (77%). The remaining 17 (23%) denied participation or no person involved with a program could be reached.

Of the 56 responders, 24 (33%) stated that they had an autologous program and 32 (44%) reported that they did not. Of the 24 with autologous skull flap programs, 21 (87.5%) responded that they store their autologous skull flaps in -40C freezers, 2 (8%) responses revealed that they store in ambient (room temperature) conditions. 1 (4%) replied that they did not know how the autologous tissue was stored.

9 (37.5%) of the facilities responded that they store 10 or fewer skull flaps per year, 5 (20.8%) store between 11 and 25 skull flaps per year, 9 (37.7%) store over 26 per year, and 1 (4.2%) response was number unknown.

Conclusion/Recommendation: Autologous skull flap storage can be a beneficial function for patients and a practice that is performed across the country utilizing different methods of storage. Further research on the subject should be conducted so that AATB becomes a primary source of knowledge.