

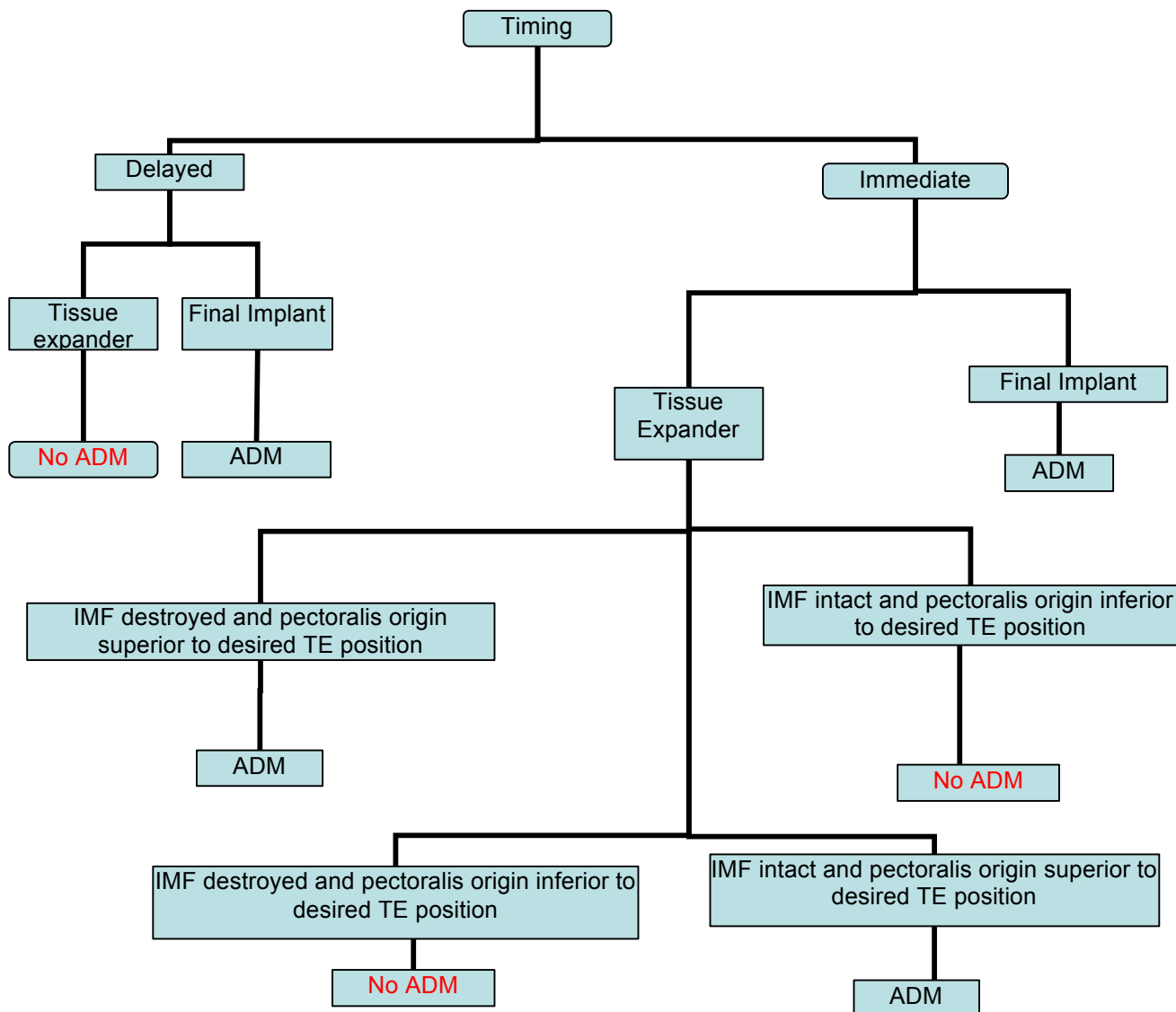
Acellular Dermal Matrices: Algorithm to Prevent Overuse In Breast Reconstruction

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Abstract

Background: Much has been written about the benefits of the use of acellular dermal matrices (ADM) in prosthetic breast reconstruction (PBR). There is universal agreement that ADM are safe to use, give excellent cosmetic results, and may help prevent or treat capsular contracture formation in adjuvant radiation therapy. Most authors agree that ADM are indicated in the following situations: reconstruction of the inframammary fold (IMF), maintenance of implant position, securing the inferior border of the pectoralis muscle, extending the pectoralis in primary implant reconstruction, and prevention of capsular contracture in cases of adjuvant radiation therapy (1-2). However, the main drawback to the use of ADM is cost. With today's increasing medical cost, it is important to limit the cost without affecting outcome. This study suggests an algorithm to prevent the overuse of ADM in PBR.

Methods: From January 31, 2009 to January 31, 2011, 66 patients have undergone PBR (92 breasts) using the algorithm listed below (Algorithm 1).



Algorithm 1 for ADM in PBR

Results: 66 patients underwent PBR (92 breasts). ADM (8 x 16 cm) were used in 25 patients (38%), and 16 of those required two pieces. 65 patients were successfully reconstructed, though some are still in the tissue expander process. Complications included infection (5/5%), hematoma (1/1%), and extrusion (1/1%). If ADM had been used in all of these cases, materials costs would be over \$400,000. Using ADM in only 38% resulted in a cost savings of approximately \$227,000.

Conclusions: Excellent cosmetic results can be obtained in breast reconstruction with or without ADM as Figure 1 demonstrates. The algorithm demonstrates the specific situations when the uses of ADM are beneficial. This algorithm can contain costs when anatomy following mastectomy is favorable and ADM is not necessary.



Figure 1. Two stage right breast reconstruction without use of ADM.

References

1. Namnoum JD. Expander/Implant Reconstruction with Alloderm: Recent Experience *Plast Reconstr Surg.* 2009; 124:387-394.
2. Zienowicz RJ, Karacaoglu E. Implant-Based Breast reconstruction with Allograft *Plast Reconstr Surg.* 2007; 120:373-381.

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