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Reconstructive

Muscle Flap Memorization Made Easy

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Muscle and musculocutaneous flaps were first reported in the early 1900s but not readily adopted until the 1970s.[1] The acceptance of muscle flaps into the plastic surgery reconstructive algorithm was largely based on an improved understanding of muscle flap vascular supply, often elucidated through latex or latex-barium vascular injection studies and localized angiograms. One of the most influential vascular studies from this period is the 1981 study by Mathes and Nahai on muscle flap vascular anatomy, in which 5 patterns of muscle flap pedicles were described.[2] The findings in this article, now known as the Mathes and Nahai muscle classification system, continue to serve as the primary classification scheme for muscle flaps. While the classification system is an informative clinical and surgical tool, the schema also stands as a ripe opportunity for examination and intra-operative quiz questions. Although the muscle classification system is seemingly simple, it is shockingly easy to forget while under the pressure of a surprise pimp question.

In this video article, we demonstrate a method for remembering the 5 Mathes and Nahai muscle flap classifications, utilizing one's own hand. We feel that the method is reproducible even under stressful circumstances, operating room included. In each step, the number of fingers raised is equal to the classification type of the muscle flap. (**See Video [online],** which describes a learning tool that utilizes hand gestures to reliably recall the Mathes and Nahai muscle flap classification scheme.)

We surveyed the residents of our program, excluding the authors of this article, regarding the usefulness of the hand gestures. The residents were first introduced to the hand gestures approximately 1 year before they were surveyed. An estimated 30% of residents (3 of 10) currently use the hand gestures, 40% plan on using them in the future (4 of 10), and 20% (2 of 10) do not presently use and do not plan to use the gestures. Comments from residents include, "When I first learned the hand gestures system, I had already memorized them, but I do like the system as it is better than some mnemonics that sometimes become more of a challenge to remember the mnemonic than just knowing the facts themselves;" "the use of hand gestures for classification allows for a readily reproducible and easily remembered guide for the [muscle flap] classification system;" "doesn't stick for me;" and "good method for new learners." Although the hand gestures may not be adopted by all learners, we are confident that this method will be effective for recall of the 5 Mathes and Nahai muscle flap classifications especially for the new learner, such as the medical student or early resident.

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