MEASUREMENT OF SMAS ADVANCEMENT WITH AND WITHOUT ZYGOMATICUS MAJOR MUSCLE RELEASE

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Purpose
To determine the comparative amount of movement obtained using two different methods of SMAS release. We present a simple and effective method to measure the length of advancement of the superficial muscular aponeurotic system (SMAS) before and after a back cut release.

Materials and Method
This comparative study was performed on 11 consecutive patients, by the first author, measuring their right and left SMAS flaps during azygomaticus rhytidectomy. Measurements of the vertical advancement (shift) were performed of the release of the Zygomaticus Major Muscle (ZMM), and after a 3 cm back cut was performed along the lateral edge of the ZMM. Measurements were made considering the following anatomical landmarks:

- The vertical advancement of the flap at the lateral edge of the SMAS
- The vertical advancement of the flap at the medial edge (over the ZMM origin) of the SMAS.

Tension force was exerted with the use of a conventional digital fish scale (Rapala Corp., China) at 2 lbs. of weight. The vertical advancement of the flap at the medial edge of the ZMM was measured. The table to the left illustrates the results of the SMAS advancement (shift) after the ZMM release. An average of 14.04 mm of additional advancement was gained by releasing the SMAS from the ZMM.

Results
The table to the left illustrates the results of the SMAS advancement (shift) after the ZMM release. An average of 14.04 mm of additional advancement was gained by releasing the SMAS from the ZMM.

Conclusion
We believe this is a particular interesting finding, because it explains and quantifies the increased medial SMAS advancement, which therefore improves the cosmetic outcome of the jowl and midface.

References

The medial SMAS movement increased an average of 14.04 mm after the ZMM release, allowing more movement of the SMAS at the jowl. The photographs above illustrate the results in patients before and after these measurements.