

# Facial Contouring Surgery—Mandibuloplasty: Genioplasty and Mandible Angle Correction

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**M**ost patients who are interested in a mandibuloplasty want a slim jaw. Mandibuloplasty is not merely a procedure that slims down the face by resecting mandibular angles but a procedure for shaping an aesthetically pleasing lower face that blends well with the upper and midfacial area. To achieve this, the overall shape of the mandible must be taken into account, and genioplasty must also be considered to create an aesthetically pleasing lower face.

Key components that contribute to a slimmer lower face are the angle of the mandibular plane, the width of the chin, and the ratio between the length and width of the mandible. The surgical plan must be based on a consideration of these components. To reduce the width of the chin, a narrowing genioplasty can be performed with a T-shaped bone segment resection. To increase the height of the chin while narrowing the width, the resected bone segment from the chin or mandibular angle can be grafted. By increasing the mandibular plane angle, reducing the width of the chin, and increasing the ratio between the length and width of the mandible, a slim lower face can be shaped.

Patients may start eating regular food from the day after the mandibuloplasty, and we encourage gargling for 2 weeks. Patients must start to practice opening their mouths after 2 weeks. Swelling can last for a long time around the chin area, and in most cases, the slimming effect will be apparent after 3 months.

## AIM

This video is edited to introduce a mandibuloplasty technique in Asians and to show many surgical techniques according to various cases.

## METHODS

See video, **Supplementary Digital Content 1**, which shows the overall genioplasty types and its techniques in animation. This video is available in the “Related Videos” section of PRSGlobalOpen.com or at <http://links.lww.com/PRSGO/A420>.

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For steps 1–4, see video, **Supplementary Digital Content 2**, which shows the real operational scene of 4 different types of techniques. This video is available in the “Related Videos” section of PRSGlobalOpen.com or at <http://links.lww.com/PRSGO/A421>.

1. Horizontal narrowing genioplasty with T-shaped osteotomy: horizontal cutting is followed by vertical cutting making “T-shape.” Chin is narrowed by removing middle segment. Rigid fixation after rearrangement is important.
2. Vertical reduction and horizontal narrowing with T-shaped osteotomy: “T-shape” cutting is performed as before, and additional vertical segment is cut and removed to reduce chin height.
3. Vertical lengthening with rotation bone flaps: after horizontal cutting, 2 trapezoid bone flaps are designed to lengthen chin height. Bone is vascularized from posterior part, so careful handling is required during cutting the bone flaps.
4. Vertical lengthening with bone graft from mandibular angles: this technique is applied to the patients who have small chin and prominent mandibular angle. After mandibular angle resection, removed bone is grafted to the chin area to lengthen vertical height.

See video, **Supplementary Digital Content 3**, which shows the real operational scene of mandible angle resection. This video is available in the “Related Videos” section of PRSGlobalOpen.com or at <http://links.lww.com/PRSGO/A422>.

This technique is beneficial to patient who have wide and prominent mandibular angle. After resection, rasping of remnant bony structure is important to avoid stepping phenomenon.

## RESULTS

See video, **Supplementary Digital Content 4**, which shows preoperative and postoperative 3-D scan of 4 different techniques. This video is available in the “Related Videos” section of PRSGlobalOpen.com or at <http://links.lww.com/PRSGO/A423>.

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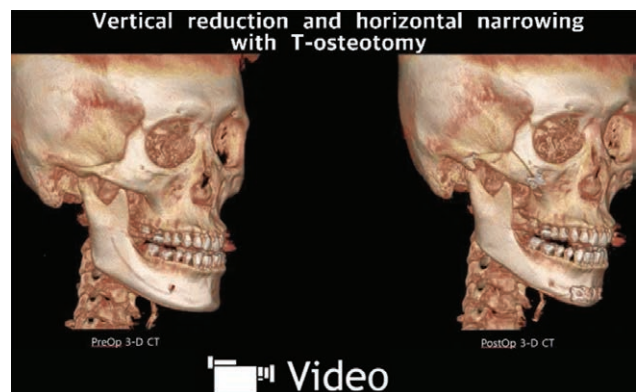
**Video Graphic 1.** See video, Supplementary Digital Content 1, which shows the overall genioplasty types and its techniques in animation. This video is available in the “Related Videos” section of the Full-Text article on PRSGlobalOpen.com or available at <http://links.lww.com/PRSGO/A420>.



**Video Graphic 3.** See video, Supplementary Digital Content 3, which shows the real operational scene of mandible angle resection. This video is available in the “Related Videos” section of the Full-Text article on PRSGlobalOpen.com or available at <http://links.lww.com/PRSGO/A422>.



**Video Graphic 2.** See video, Supplementary Digital Content 2, which shows the real operational scene of 4 different types of techniques. This video is available in the “Related Videos” section of the Full-Text article on PRSGlobalOpen.com or available at <http://links.lww.com/PRSGO/A421>.



**Video Graphic 4.** See video, Supplementary Digital Content 4, which shows preoperative and postoperative 3-D scan of 4 different techniques. This video is available in the “Related Videos” section of the Full-Text article on PRSGlobalOpen.com or available at <http://links.lww.com/PRSGO/A423>.

- This video shows the changes between preoperative and postoperative computed tomography scans of each case.
- The patients must practice mouth opening after 2 weeks.
- Slimming effect becomes apparent 3 months later, after swelling has subsided.

### COMPLICATIONS

1. Mental nerve symptom (rarely occurs): to avoid this, careful dissection around mental nerve is required. Most patients who complain about numbness and tingling sensation get better without any treatment in 6 months to 2 years.
2. Stepping deformity: after rearrangement of bone flaps, remnant bony fracture can make a second-

ary angle because of size discrepancy. To avoid this, rasping of prominent portion is performed intraoperatively.

### CONCLUSIONS

Many techniques to make an aesthetically pleasurable jaw are applied to various types of chin. To make patients satisfied, an appropriate technique is performed.

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