Asian Upper Blepharoplasty
Double-Fold Procedure

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The author describes how to create a double eyelid in Asians by use of three different techniques, noting advantages and disadvantages related to postoperative swelling and recovery time, wrinkle removal, scarring, and longevity of results. Technique selection is based on patient preference and careful evaluation of patient skin and upper eyelid fat tissue. (Aesthetic Surg J 2007;27:656–663.)

The “double eyelid operation” is the most commonly requested aesthetic surgery among Asians. Creation of a double eyelid may make the eye appear larger, younger, and more attractive. In older patients, double eyelid surgery, performed with the incision technique, may be useful in treating “sunken eye deformity,” removing wrinkles, or improving sagging of the eyelid skin. There are also patients who request enlargement of the double eyelid width.

Selection of Technique

There are 3 methods of creating the double eyelid: the incision method, the buried suture method, and the beads method. Choice of technique is based on patient preference, skin quality, and the volume of fat tissue in the upper eyelid.

The incision method

The incision method is a reliable technique that has the additional benefit of removing wrinkles between the new double eyelid line and eyelashes. This technique is also useful in those who desire a wider or narrower double eyelid or in those who have slight sunken eye deformity. If patients wish to change the direction of the eyelashes to angle them slightly upward, the incision technique should be the method of choice.

A disadvantage of the incision method is that patients may have a visible scar show on the double eyelid line when they close their eyes. It is therefore important to evaluate the patient’s skin quality before surgery.

Asian patients with a history of atopic dermatitis or asthma, even if only during childhood, must be advised that the scar will be noticeable in 70% to 80% of cases. Also, if a patient has prominent scars in other areas, it is important to evaluate the quality of those scars because the eyelid may scar in a similar manner.

In patients with very white, red, or oily skin, scars will not be visible. In patients with dry or dark skin or in patients who demonstrate pigmentation in the same spot in which previous acne vulgaris lesions have occurred, in most cases, scars will be very visible.

The incision technique or a simultaneous epicanthal fold operation can be performed only when patient skin is adequate. The “Z-plasty” can be used for management of the epicanthal fold in most patients with good skin.

Buried suture and beads methods

If patients are not good candidates for the incision method, available techniques include the buried suture and beads methods. In both techniques the skin is not incised; therefore there is no need to be concerned about incisional scarring. However, in the beads method, in about 2% to 3% of cases, the scar from needle punctures will be (very) slightly visible if the patient’s skin quality is not good.

The disadvantage of the beads method is that postoperative swelling, noticeable for 2 to 3 weeks, is severe and lasts longer than with other techniques. When patients can tolerate such a long recovery period, the beads method can be used.

If the patient requires a short recovery, the buried suture method may be used. However, the buried suture method has the disadvantage of possible disappearance of the double eyelid, especially when patients have abundant fat tissue in the upper eyelid.
Informed Consent

Preoperative evaluation and patient education are vital to this procedure. Eyelid evaluation should include forehead muscle function, eyebrow level, blepharoptosis assessment, levator muscle function, eyelid skin quality, eyelid shape, and upper eyelid fat tissue volume. It is especially important to assess whether the patient has any asymmetry. If asymmetry exists, the patient should be informed that some asymmetry may remain. With the incision technique, the double eyelid will almost never disappear. However, with the buried suture or the beads technique, it is possible that the double eyelid may disappear in the future. After 1 year, the double eyelid disappeared in 7.1% of 98 patients undergoing the buried suture technique performed by the author. After 1 year, the double eyelid disappeared in 1.5% of 68 patients, the double eyelid disappeared in 1.5% of patients undergoing the beads method performed by the author. The disappearance of the double eyelid, however, can be easily corrected, and this should be communicated to patients before they undergo the procedure.

Marking of the Incision

To confirm that patient expectations will be met, the first step is to create a tentative double eyelid crease (using some device) with the patient standing in front
Figure 3. A, The orbicularis oculi muscle just beneath the skin incision should be removed. B, From the incision line, the skin is undermined from the superior edge of the orbicularis oculi muscle to the eyelashes to create a smoother surface. C, Fat tissue beneath the orbicularis oculi muscle is removed. D, The aponeurosis at the top of the tarsus should be identified by removing fat tissue. E, Sutures are placed through skin, aponeurosis, and skin. These stitches should be removed on the fourth or fifth postoperative day. F, One stitch is sutured in the midpoint of the incision. G, The width of the double eyelid should be measured after closing the wound.
Figure 4. A, Preoperative view of a 36-year-old woman. B, Postoperative view at 4 months after double eyelid surgery with the incision method.

Figure 5. A, Preoperative view of a 35-year-old woman. B, Postoperative view at 5 months after double eyelid surgery with the incision method. Note that the sunken eye deformity was corrected; the incision method can be used to correct sunken eye deformity if the width of the double eyelid is not too narrow.

Figure 6. A, Preoperative view of a 23-year-old woman who wanted to remove the epicanthal fold and create a double eyelid. B, Postoperative result at 3 months after double eyelid surgery with the incision method. A Z-plasty was performed to remove the epicanthal fold. C, After evaluating skin quality, if removal of the epicanthal fold is desired, a Z-plasty can be performed. The Z-plasty incision should be separate from the double eyelid incision. Otherwise, hypertrophic scarring of the medial part of the eyelid may become visible.
Figure 7. A, When the buried suture method is performed, 4 small holes are made in the marked double eyelid. B, The same width between the upper eyelid margin and the incision points is marked on the conjunctiva. C, On the conjunctiva of the tarsus, 2 short, shallow incisions are made. D, Clear nylon (7-0) is inserted through the incision. E, After slightly pulling out the suture, loop it back into the same hole and pass the needle as superficially as possible to the next hole. After connecting the 2 surface points and the reverse tarsal point, tie the 7-0 nylon and bury it into the upper eyelid. F, A diagram illustrating the buried suture method.
of the mirror. By pushing in and manipulating several different places in the upper eyelid, different widths of double eyelid folds can be created and visualized.

After selecting the best line position for the double eyelid, the distance between the line and the upper eyelid margin is measured while the patient looks downward. This distance should not exceed 9 to 10 mm (Figure 1). With the incision method, if the patient has wrinkles in the lower part of the upper eyelid, the same distance from the upper eyelid margin should again be marked while the upper eyelid is stretched upward. The skin within these 2 lines can be excised (Figure 2). This tension creates smoother skin between the new double eyelid line and the upper eyelid ciliary margin. It also slants the direction of the upper lid eyelashes slightly upward.

**Incision Technique**

After making the incision and removing the marked skin, the orbicularis oculi muscle just beneath the skin is removed between the incisions only. When the incision is made without removing the skin, the orbicularis oculi muscle just beneath the incision is marked and a line about 2 mm inferiorly to the incision level is also marked. The orbicularis oculi muscle between the 2 marked lines is removed. From the lower incision edge the skin should be undermined only to the upper eyelid margin to create a smoother skin surface or to remove an original double eyelid line. The orbicularis oculi muscle should be kept intact beneath the undermined area.

After excising the orbicularis oculi muscle beneath the incision the fat tissue over the top of the tarsus should be removed until the levator aponeurosis can be clearly identified. If the patient has too much orbital fat tissue, part of the fat tissue can be removed.

Stitches should be placed from the skin through the aponeurosis to the skin. These stitches should be removed on the fourth or fifth postoperative day (Figures 3 through 6).

**Buried Suture Technique**

Four small holes for the needle should be opened in the marked line. The distance between the new double eyelid and the upper eyelid margin is measured, and the same distance from the upper eyelid margin should be marked on the conjunctiva of the reverse side of the tarsus.

A 1- to 2-mm shallow incision is made on the reverse side of the tarsus at 2 points. Through this small incision 7-0 clear nylon is inserted and placed through one of the surface holes. Through the skin surface hole the 7-0 nylon should be reinserted and pulled out through the next hole on the inner surface of the eyelid. The other end of the suture should be inserted from the reverse side to the same surface hole to tie the 3 points. Care should be taken that the entire suture is completely beneath the skin and buried in the tarsus on the reverse side of the eyelid (Figures 7 and 8).

**Beads Technique**

Using 3-0 polyester or silk sutures, the needle should be inserted beyond the superior margin of the tarsus in the reverse side of the eyelid and pulled out through the marked line. After 6 sutures are inserted, they are tied together and threaded through beads so that the sutures will not cut the skin. The sutures should be removed on the fifth or sixth postoperative day.
Figure 9. A, The beads method is performed, using 3-0 polyester. The needle should be passed from the reverse side of the upper eyelid, superiorly, to the upper margin of the tarsus to the surface marked line. B, The needle should be pulled out in the marked line. C, Five to 6 sutures are passed through. D, These stitches are tied with beads so that the suture does not cut the skin.

Figure 10. A, Preoperative view of a 29-year-old woman. B, Postoperative view at 6 months after the double fold procedure with the beads method.
It is important to know that the suture should cause inflammation because the inflammation produces the scarring that creates the double eyelid fold. In fact, with nylon sutures, the double eyelid cannot be created by use of the beads method (Figures 9 and 10).

**Conclusion**

All 3 methods of creating the double eyelid (the incision method, the buried suture method and the beads method) can provide the desired aesthetic outcome and a high degree of patient satisfaction. The key is selection of the proper technique for each individual patient based on the preoperative assessment and patient preferences.

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**References**


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