



Adjustable Suture Surgery Fine Tuning for the Best Result

Strabismus surgery (surgery to straighten the eyes) has changed over the last ten years. One of the major changes has been the introduction of a technique called adjustable suture surgery. Prior to the introduction of this technique, the eye muscles were moved a certain amount based on motility measurements, and then sewn firmly to the eye at the time of surgery. After the operation, if any change was felt to be necessary, a repeat operation had to be performed. In the majority of strabismus cases this technique works quite well. However, in some individuals conditions exist which make determining the amount of surgery to be performed much more difficult. Such things as previous surgical procedures, scarring, muscle palsies, thyroid eye disease, and previous retinal detachment surgery

make the determination of the amount of surgery to be performed much more complicated. In such situations it would be advantageous to have some method to adjust the amount of surgery done after the operation, if the desired result was not obtained. Adjustable suture surgery is an excellent method to achieve this goal.

The concept of adjustable suture surgery is actually quite simple. As stated above, normally when strabismus surgery is being performed, the muscles are moved from the present location to a different location, which allows the eye to assume a more straight ahead position. Normally the suture knot is tied permanently. In using the adjustable suture technique, the knot is tied only temporarily.

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By tying the knot in this manner, if the eyes are not in the desired position postoperatively, the knot can be loosened and the muscle gently moved to another position. The new eye position is reexamined and this process is repeated until the eyes are in the best possible alignment. The knot is then tied permanently. The major advantage of this technique is that if, in the immediate postoperative period, the eyes are not straight, they can be straightened. Fine adjustment can be made in those situations which would otherwise require another surgical procedure.

How is adjustable suture surgery actually done?

The technique of adjustable suture surgery is as follows: Prior to your surgery, eye misalignment will be measured with prisms, during an office visit. This is done in a variety of different eye positions to determine which eye muscles need to be operated on and to obtain an estimate as to how much these muscles need to be moved. The operation will then be performed and the muscles moved the determined amount. One of the muscles that is moved will be sewn to the eye but the knot will be tied temporarily in such a manner that it can be easily untied at a later time. The ends of the sutures are kept long and the eye is patched. Later that day or occasionally the next morning after you have recovered from your anesthesia, whether it is local or general, the patch will be removed. Topical anesthesia will be placed on the eye in the form of drops and the eye position will be examined. If the eye is in the desired position, the knot is tied permanently and no adjustment is made. If the eye is not in the desired position, then an adjustment will be necessary. You are awake for this particular procedure, as any medications influence

the position of the eye. The exam chair is rotated so that you are in a lying down position and the lids are gently held open by an assistant. You will be asked to look in a certain direction which will make access to the temporarily tied knot easy. Depending on the position of the eye, the eye muscle will be either moved slightly forward or slightly backward. This is done by pulling on the sutures which are attached to the muscles. These are then temporarily tied again. The chair is then brought to an upright position and the eye is reexamined. This procedure of examination and adjustment is continued until the eyes are in the best possible position. At that point, the knot is tied permanently, and you are free to go home. There is no special additional postoperative care that is necessary if one undergoes an adjustable suture procedure. The adjustment is usually done at the GTOC office. Postoperative care and follow-up visits are the same as traditional strabismus surgery.

The amount of discomfort in moving the muscle by this technique varies from individual to individual. The majority of people experience either no, or minimal, pain while the muscle is actually being moved. The benefit of the ability to adjust the muscle position after seeing the results of the surgery far outweigh any minor discomfort caused during this procedure.

Summary

Adjustable suture surgery has proven to be a valuable modification to the traditional strabismus surgery. It allows us to “fine tune” and insure the best possible result in one single operation. If you have further questions with regard to this technique, please feel free to call (231) 947-6246.

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