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Note: Information from this page contains no medical advice.

You should always consult your doctor about INS treatments.

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Note: In this document, we have presented very complex scientific information in laymen's terms.

### DD\_OMLAB Patient Information Series:

## 3. THE TENOTOMY & REATTACHMENT PROCEDURE



*Before the tenotomy & reattachment (T&R) procedure, if you were the person taking this photo, when you look at the group of people without turning your head, this may be what you see.*

*The farther away from your “null point”, the worse you see. You may have to *turn your head* to see each person clearly and identify his/her face. It will *take you a while* to identify all of them.*

*The same thing happens in your life too: when you are trying to find your friend who is standing in a room full of people, when you are looking for a road sign while driving, and so on.*



*After the T&R procedure, when you look at the same group, your view will be *clearer and broader*. You may be able to identify everybody in the picture *much faster*.*

### ❖ **What is the tenotomy and reattachment (T&R) procedure?**

The T&R procedure (or the Dell'Osso procedure) is different from the Anderson-Kestenbaum (AK) or BiMedial Recession (BMR) surgeries, in that it *does not move* the location of the eye muscles. The T&R procedure is part of AK and BMR. In AK and BMR, the doctors cut the muscles, move them to a different location in order to change the position of the eye, and sew them back on. In the T&R procedure, the doctors cut the muscles and sew them back on at the same location. The T&R procedure is a simple, outpatient surgery. After the T&R procedure you may see *better, broader and faster*. The two photos in the previous page illustrate some of the T&R procedure's effects.

### ❖ **Whom can the T&R procedure help?**

The T&R procedure is recommended for Infantile Nystagmus [nĭ-STAG-muss] Syndrome (INS) patients who do not have a "null point" or "convergence null" or whose a null point changes with time.

### ❖ **Why does the T&R procedure work?**

Imagine a pair of very tight rubber bands fixed to a ball. The rubber bands are like the eye muscles and the ball is like the eyeball. When you shake the rubber bands constantly, the ball will have a constant movement, just like nystagmus. Now imagine loosening the rubber bands a little bit and shake the rubber bands with the same amount of force. The eyeball will wiggle less now. The T&R procedure reduces the tension in the eye muscles, and decreased the nystagmus in the same way.

### ❖ **How did the idea of the T&R procedure come about? How long has it been performed?**

The T&R procedure was first conceived in 1979 when Dr. Dell'Osso analyzed the eye movement recordings from INS patients who had AK surgery. He found that the null point of those patients was not only moved and but broadened also. Moving the eye muscles shifted the null point, but did not explain the broadening effect. He then hypothesized that cutting and sewing back the muscles without moving them would achieve the broadening effect. This hypothesis was tested 20 years later, in 1998, on a dog with INS. The T&R procedure greatly reduced the dog's nystagmus. In 2001 and 2002, two National Eye Institute clinical trials were performed on 10 adults and children, and the T&R procedure had positive effects on most of the patients. Several hundred patients have had the T&R procedure since then. AK and BMR, which have the T&R procedure as part of them, have been performed for more than 50 years.

### ❖ **Does the T&R procedure have any negative effects? Will the positive effects last?**

The T&R procedure had no known negative effects so far. The worst thing that can happen is no improvement (your nystagmus stays the same). Research has shown that the worse nystagmus you have, the better your chance for a higher percentage improvement. Like AK and BMR, the T&R effects last for years.