

## TRIGGER THUMB RELEASE STUDY

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### INTRODUCTION:

Congenital trigger thumb is stenosing tenosynovitis of the flexor pollicis longus which can manifest as triggering, IP joint flexion contracture, and a flexor tendon nodule over the metacarpal head level (Notta's nodule). The incidence of having a trigger thumb, whether it is congenital or developmental, is at 0.3%.

Children with trigger thumb rarely complain of pain. They usually are brought in for evaluation when aged 1-4 years, when the parent first notices a flexed posture of the thumb IP joint. These children often demonstrate fixed flexion contractures of the thumb by the time they present to the physician.

If trigger thumb is present at birth, approximately 30% of children will recover spontaneously in one year. Surgery should be considered if not resolved by 12 months of age.

During surgery, general anesthesia is usually used. The A1 pulley is approached through a transverse incision in the flexion crease overlying the MP joint. Subcutaneous tissue is dissected; radial and ulnar neurovascular bundles are identified and gently retracted. The A1 pulley is exposed and incised longitudinally. Full free thumb range of motion is confirmed prior to closure. Then, the incision is closed with 4-0 or 5-0 monocril and the wound is dressed with a soft compressive bandage.

This study was performed in order to analyze the outcome of trigger thumb release operations performed by the senior author.

### METHODS:

Senior Author has performed trigger thumb release surgery on sixteen different patients since 2004. Three of these patients were adults of forty years of age or older, therefore they were excluded from this study because of non-congenital etiology of their condition.

A questionnaire was created that consisted of four basic questions that would help evaluate the outcome of the procedures:

1. Does the patient have full range of motion of the thumb(s)?
2. Is the range of motion equal on both sides?
3. Has the patient encountered any problems or complications after the surgery?
4. How satisfied is the parent with the performed surgery?

We attempted to reach the parents of all thirteen patients. The parents of eleven patients were reached over the phone; all were pleased to participate by answering the above questions.

**RESULTS:**

Out of eleven parents that we were able to contact, five had their children’s trigger thumbs released on both sides. The total number of thumbs that were included in this study is sixteen.

Ten of eleven parents stated the following:

- The child’s repaired thumb(s) do have full range of motion.
- Range of motion is equal bilaterally.
- There are/were no complications after the surgery.
- As parents, they are very to extremely satisfied with the performed procedure.

The remaining parent, whose child had both the left and right thumbs operated on, stated the following:

- One thumb has never reached full range of motion, however the other one did.
- This results unequal range of motion on both sides.
- There were no complications after the surgery.
- As a parent, mother is satisfied with a level of 5 out of 10 with the performed surgery.

This concludes to fifteen out of sixteen thumbs being successfully repaired. In these cases children were able to reach full range of motion of their thumbs that is equal bilaterally. Parents are very satisfied with the performed surgeries. The remaining released trigger thumb never reached full range of motion, which resulted in an inequality in range of motion of two thumbs. Due to this patient’s condition of bilateral trigger thumb, the mother was satisfied with the procedure at a level of 50 percent.

#	Date of Birth	Date of Surgery	Age at Time of Surgery	# of thumbs	Full Range of Motion	Range of Motion Equal Bilaterally	Complications	Satisfaction
1	09/15/1993	01/11/2005	11	1	Yes	Yes	None	Extremely Satisfied
2	05/25/1999	01/04/2005	4	1	Yes	Yes	None	Very Satisfied
3	08/25/2000	09/13/2005	5	1	Yes	Yes	None	100% Satisfied
4	06/28/1999	05/22/2007	7	2	Yes	Yes	None	Very Satisfied
5	08/22/2001	12/13/2005	4	1	Yes	Yes	None	Very Satisfied
6	07/14/2002	01/24/2006	3	2	1 thumb	No	Never reached full Range of Motion	5/10
7	11/01/2005	11/14/2006	1	2	Yes	Yes	None	Very Satisfied
8	02/02/1995	03/27/2007	12	1	Yes	Yes	None	Very Satisfied
9	12/12/2005	11/27/2006	11 mos	1	Yes	Yes	None	Extremely Satisfied
10	07/09/2005	01/29/2007	1	2	Yes	Yes	None	Extremely Satisfied
11	10/07/2001	06/14/2005	3	2	Yes	Yes	None	Extremely Satisfied
12	06/22/2000	07/12/2005	5	1	Yes	Yes	None	Very Satisfied

## CONCLUSION:

This study has revealed that procedures performed by the senior author between December, 2004 and January, 2007 have had very good results with 94% of surgeries providing full range of motion of the thumbs that is equal bilaterally, and complete parent satisfaction. In one case, one of the patient's thumbs had an increase in range of motion, but was not full compared to the opposite thumb. The other thumb did reach full range of motion. The mother is very satisfied with one thumb and not fully satisfied with the other. Overall, the results show to be very rewarding.