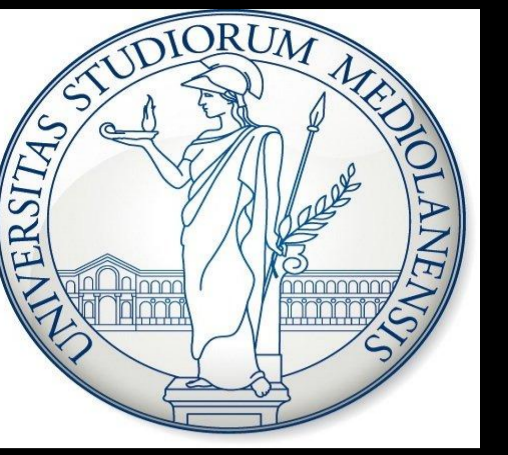


# IMMEDIATE ACTIVE MOBILIZATION IN PATIENTS WITH SCAPHOID NON-UNION TREATED WITH AUTOLOGOUS BONE GRAFTING:TREATMENT PROPOSAL

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## THE MOST RELIABLE METHOD TO TREAT A SCAPHOID NON-UNION (PSA) IS WITH A GRAFT:

NO GRAFT	→	Instable PSA without shortening
GRAFT ACCORDING TO RUSSE (OR MODIFIED)	→	PSA neither with angulation nor instability of the middle third
CANCELLOUS GRAFT	→	PSA without shortening
CORTICOCANCELLOUS GRAFT	→	Unstable PSA with HUMP BACK DEFORMITY
VASCULARISED BONE GRAFT	→	Proximal 3° PSA without deformity with avascular proximal fragment.

## WHEN IS IT POSSIBLE TO DO AN IMMEDIATE MOBILIZATION IN PSA?

STABLE SYNTHESIS

STRENGTH OF HACKED SOFT TISSUE

BOTH IN:

DORSAL INCISION

VOLAR INCISION

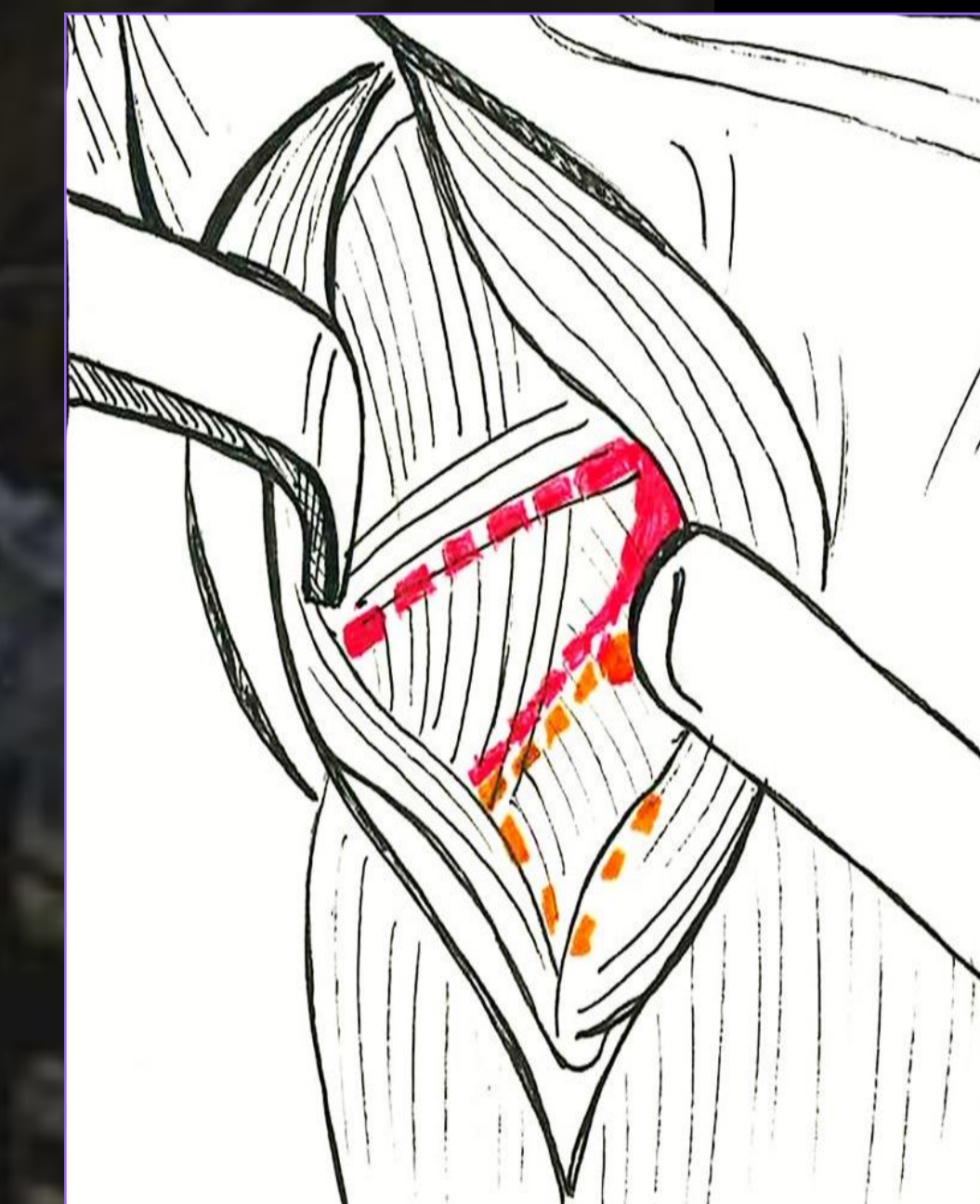
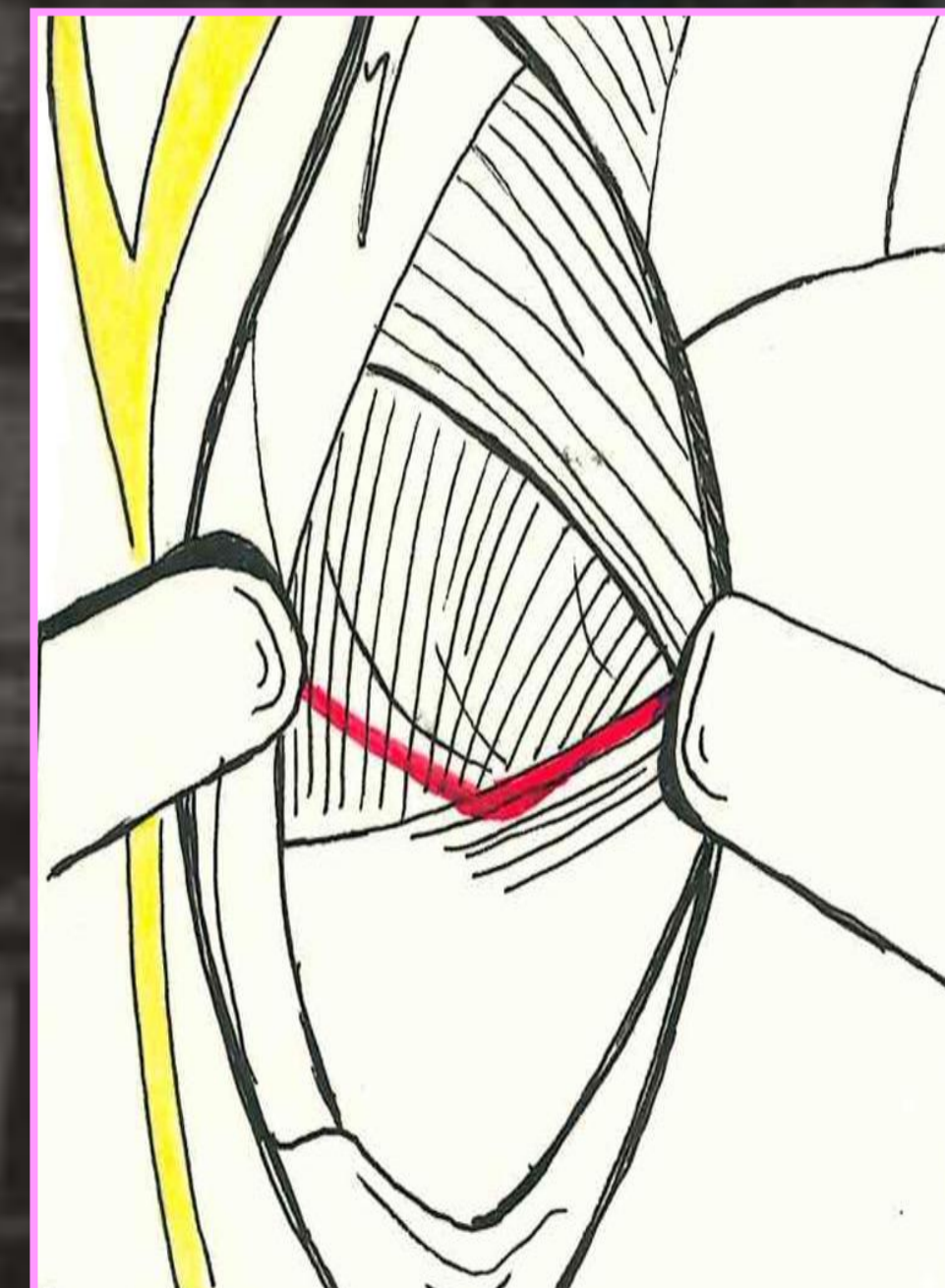
## FACTORS AFFECTING PROGNOSIS:

AVASCULAR NECROSIS

NONUNION PERIOD (>5 YEARS)

PROXIMAL FRACTURE

**IMMEDIATE ACTIVE MOBILIZATION IS NOT A RISK FACTOR!**







## AIM OF THE STUDY:

The aim of this study is to propose a rehabilitation protocol of **immediate active mobilization** in patients with scaphoid non-union treated with bone graft harvested from the iliac crest or from the radio, through specific exercises which follow the physiological bone healing process.

## MATERIALS AND METHODS

- **23 patients** who had surgery between 2013 and 2015: 3 female and 20 male
- **7 weeks** of physiotherapy (average)
- in 3 patients the graft had been harvested from the **radio**, in the others from the **iliac crest**

## EVALUATION

- T0 = immediatly after surgery
- T1= after 3 months
- RX T0, 7 days, 6 weeks, T1;
- TAC T1
- QUICK DASH; MAYO WRIST SCORE T0 / T1
- VAS ; AROM F/E T0 / T1
- All patients underwent daily **magnetotherapy**.



## AIMS OF THE TREATMENT:

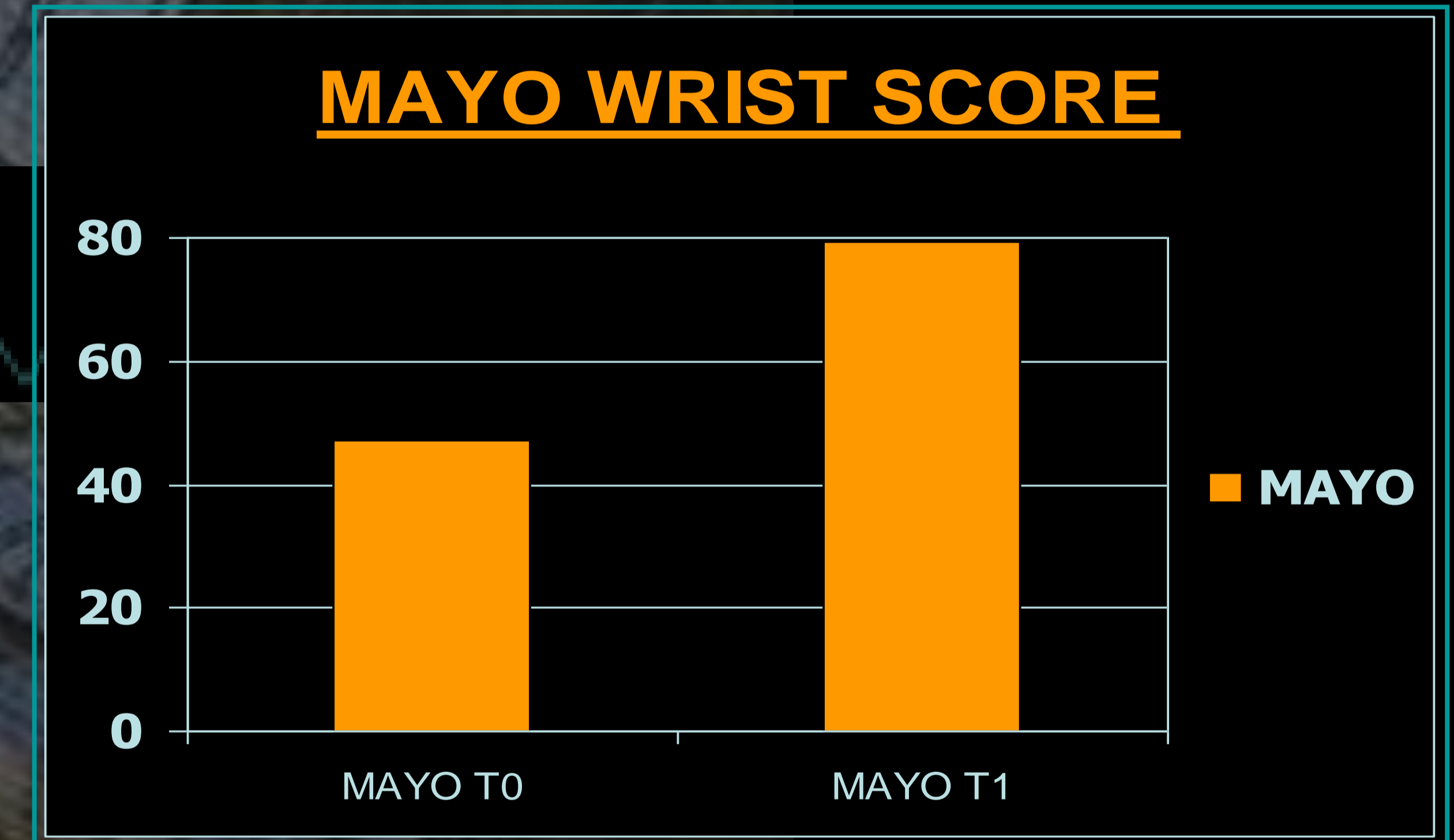
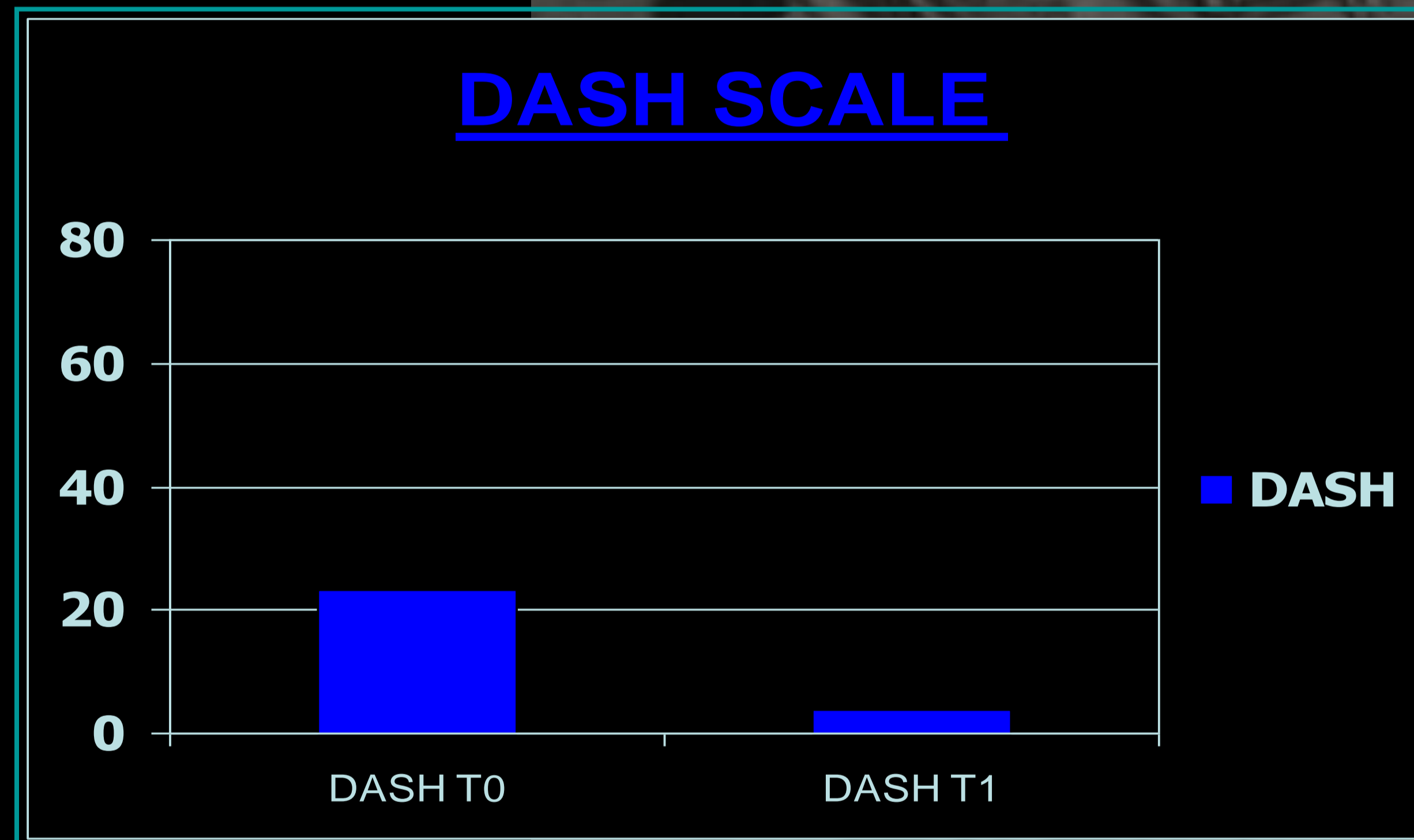
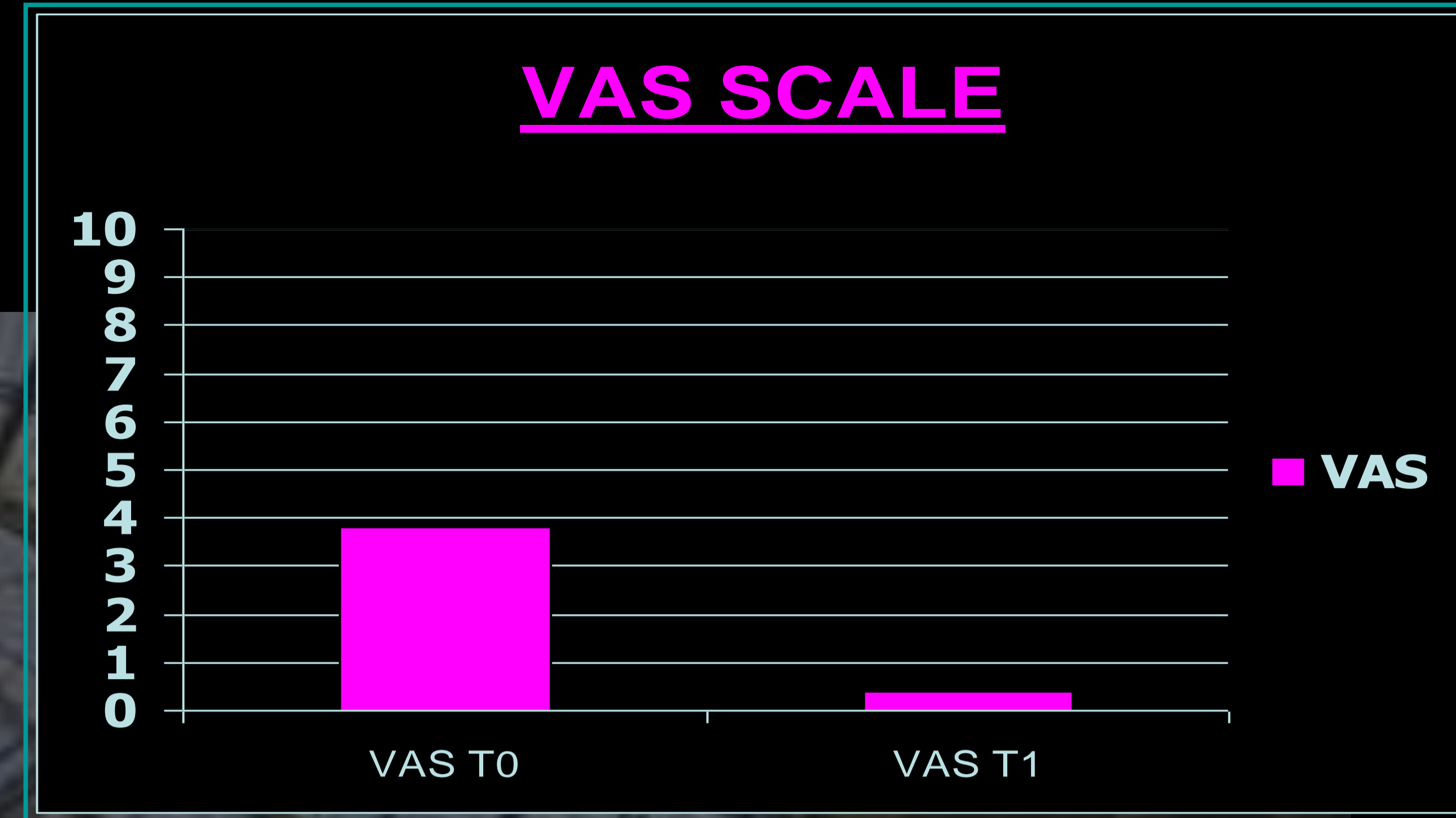
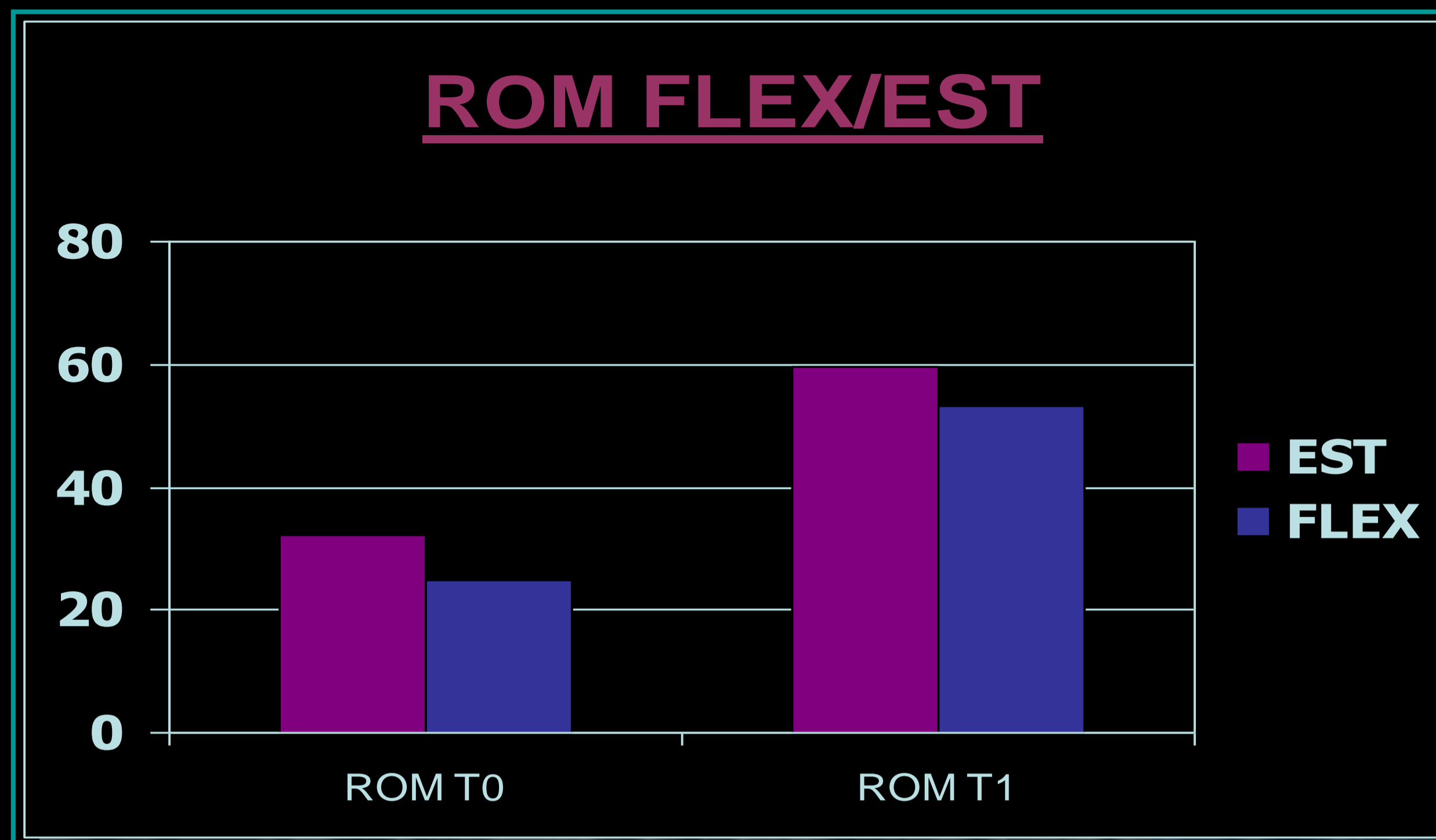
### **Day 0 (after surgery) / 6 weeks**

- Antibrachio metacarpal removable splint wrist at 0°, opposed thumb with free IP
- Edema treatment
- Pain control
- Active mobilization of the thumb in all directions
- Active mobilization of the wrist in tenodesis/ dart throw motion
- Scar treatment
- Gradual increase of wrist AROM in F/E
- Proprioceptive exercises

### **6 weeks-->3 months**

- Monitoring of the scar evolution
- After surgeon approval: progressive strengthening exercises
- Proprioceptive exercises
- Return to work activities
- Gradual loads increase





**RESULTS:**  
Through immediate active mobilization we obtain a faster ROM and functionality improvement.  
This protocol reduces the risk of joint stiffness and functional inability which are often negative consequences of long term immobilization.