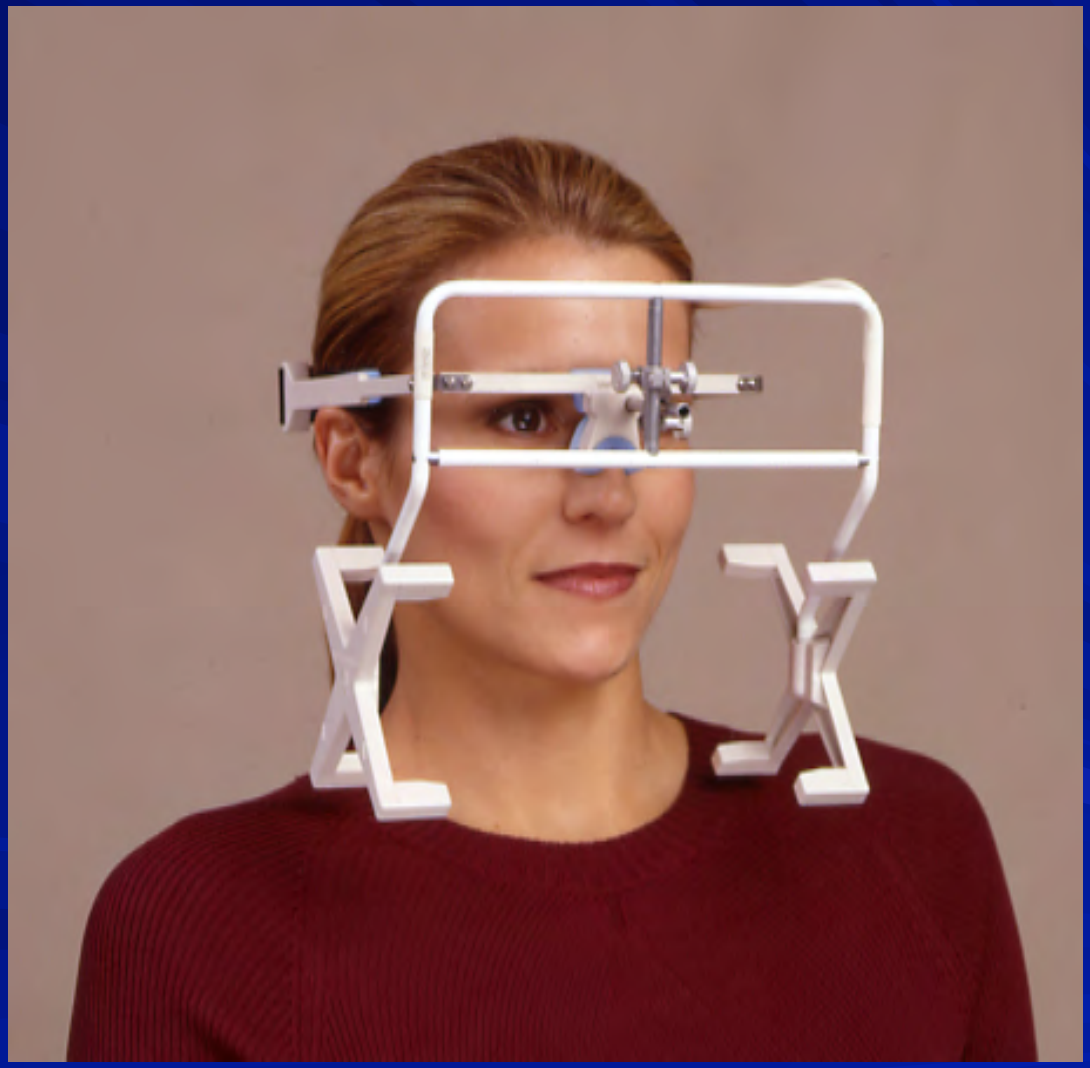
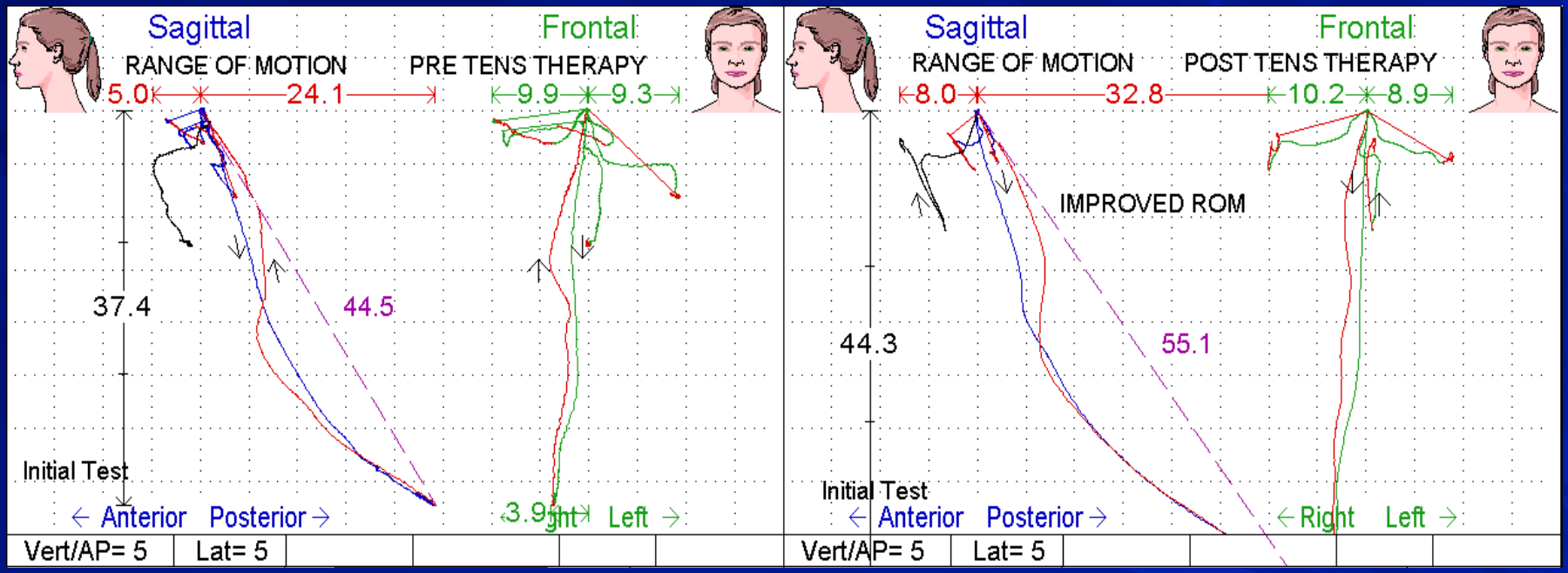
COMPUTERIZED MANDIBULAR TRACKER



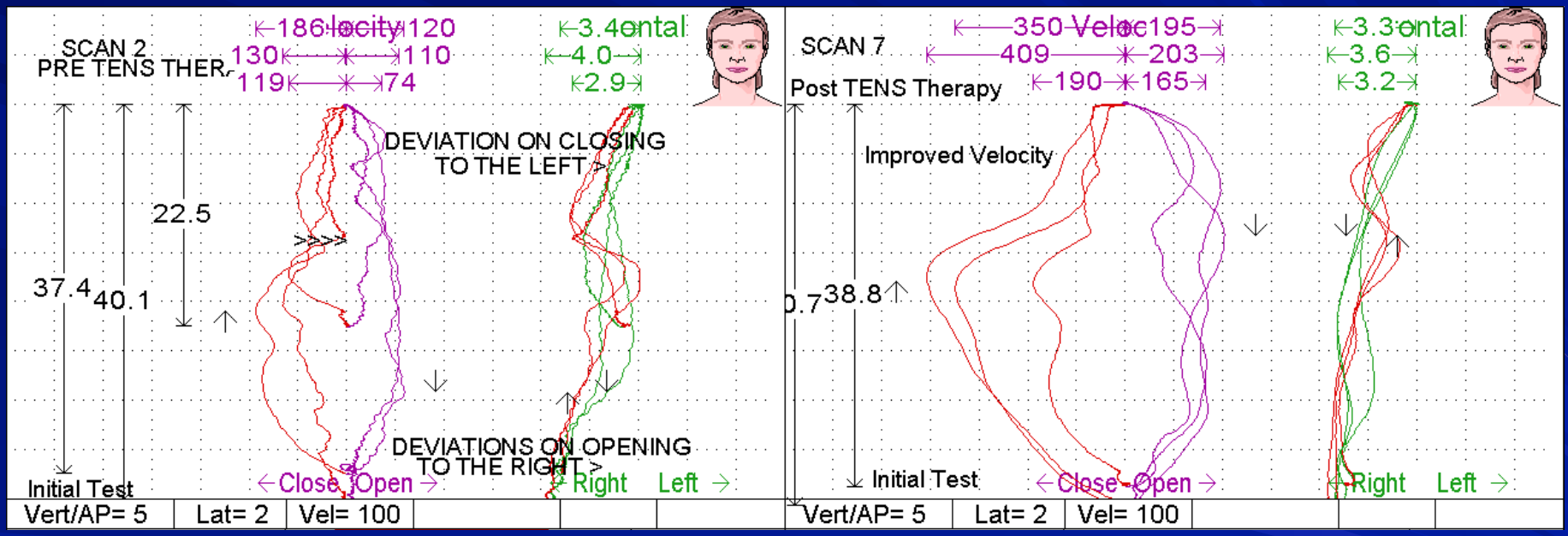
Comparison of Range of Motion

Pre and Post TENS Therapy



Comparison of Velocity
Pre and Post TENS Therapy

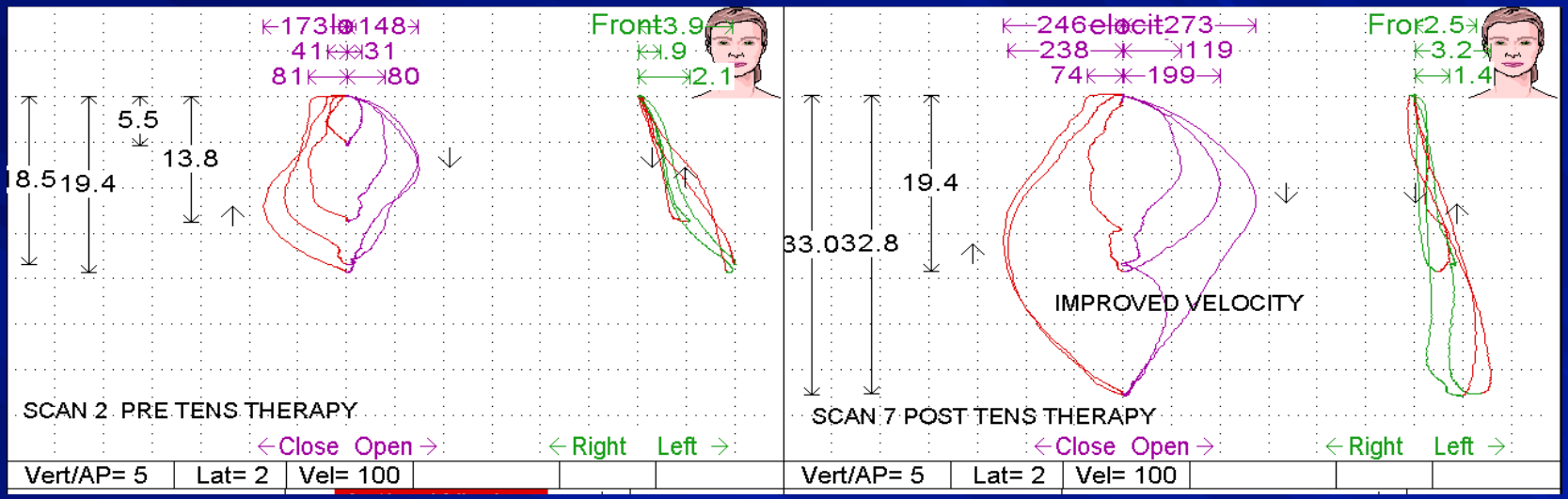
Marked slowdown, lateral shifts and deviations, area not point of closure



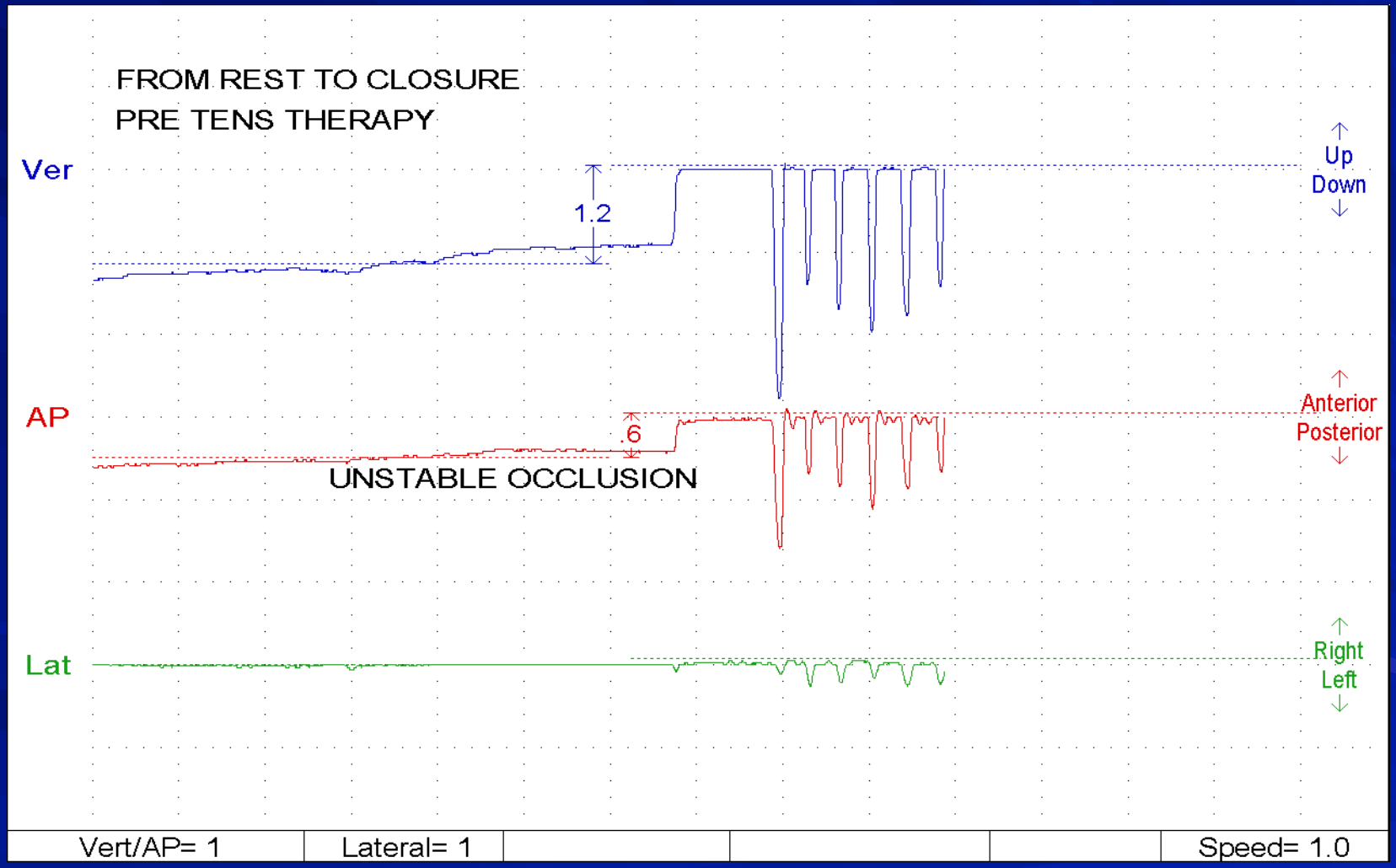
Comparison of Velocity

Pre and Post TENS Therapy

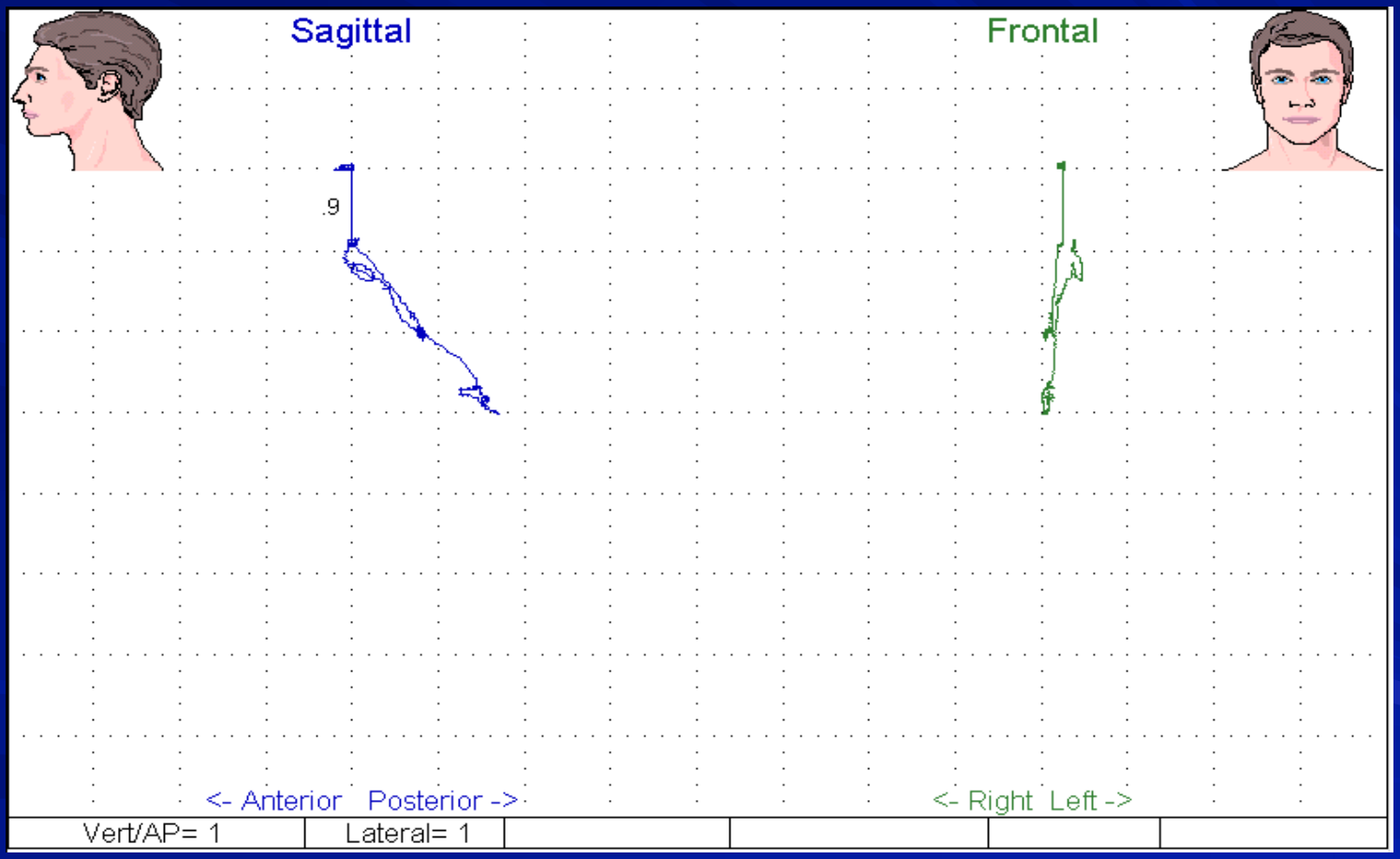
Note: Improved function after TENS relaxation



SCAN 3: **Freeway Space**
Pre TENS Therapy



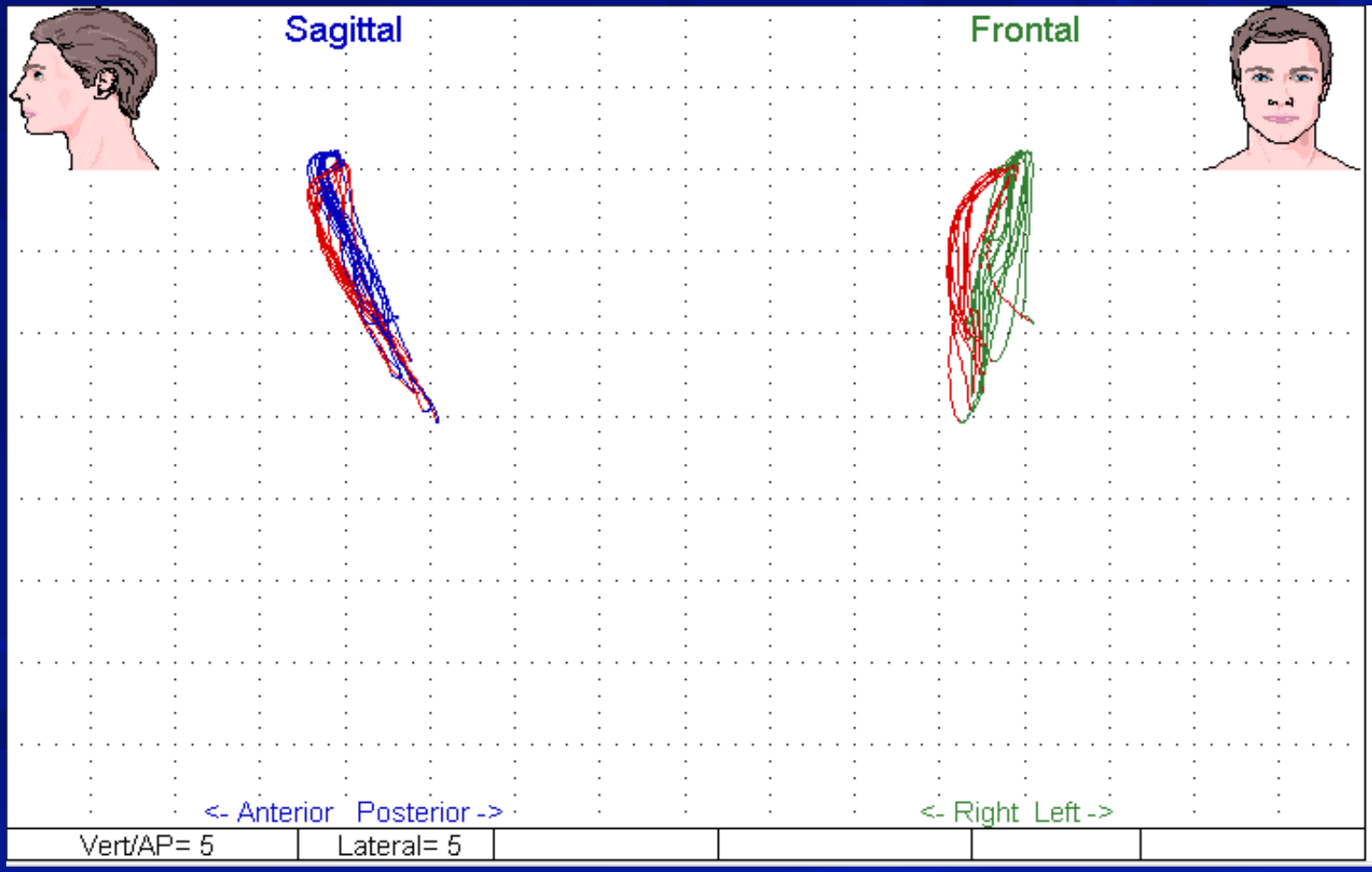
SWALLOW EVALUATION
Abnormal swallow tongue stabilizes mandible, not teeth in occlusion



POOR CHEWING PATTERN

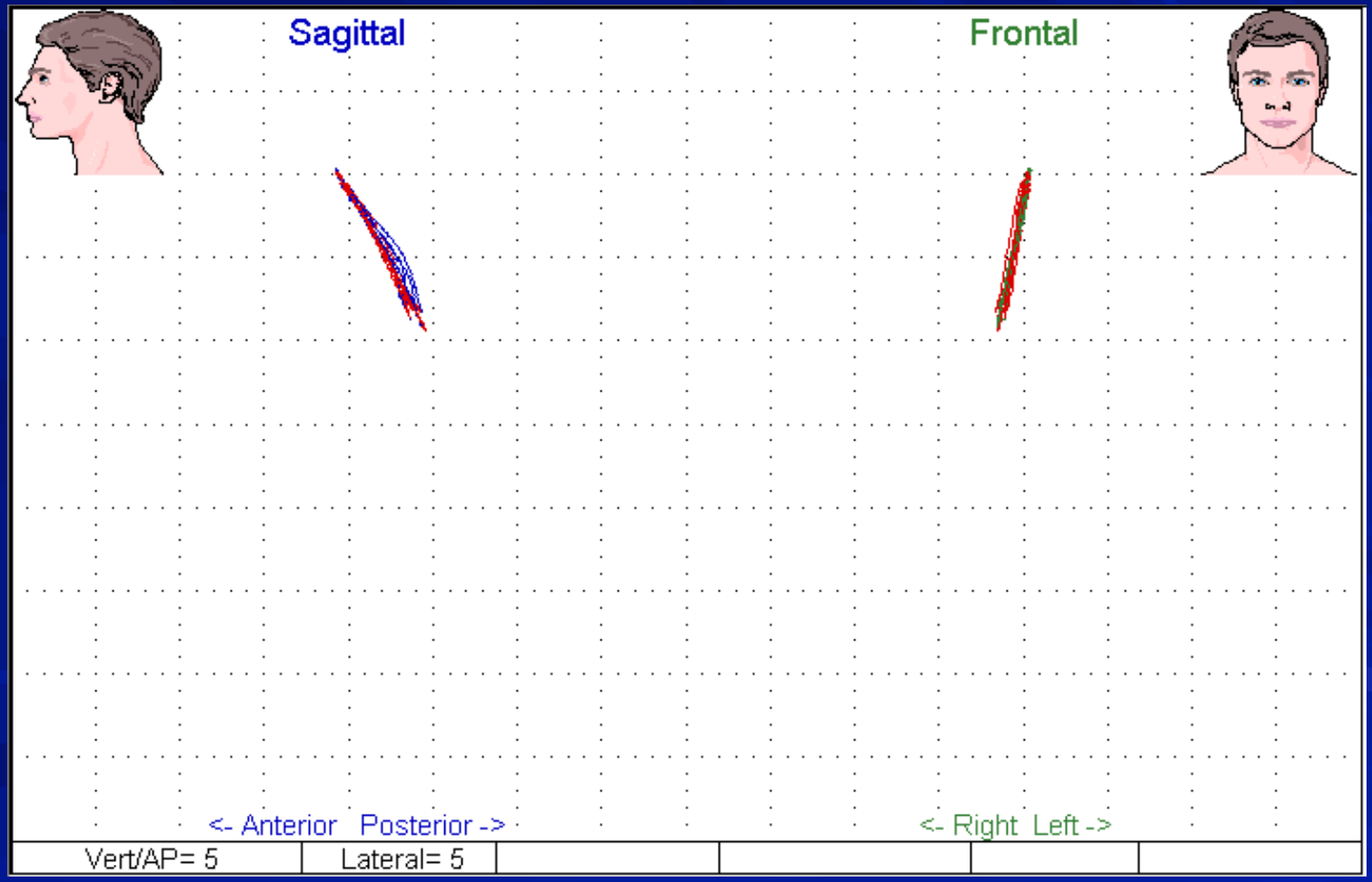
All closing strokes end in an “area”

occlusion is not well defined



GOOD CHEWING PATTERN

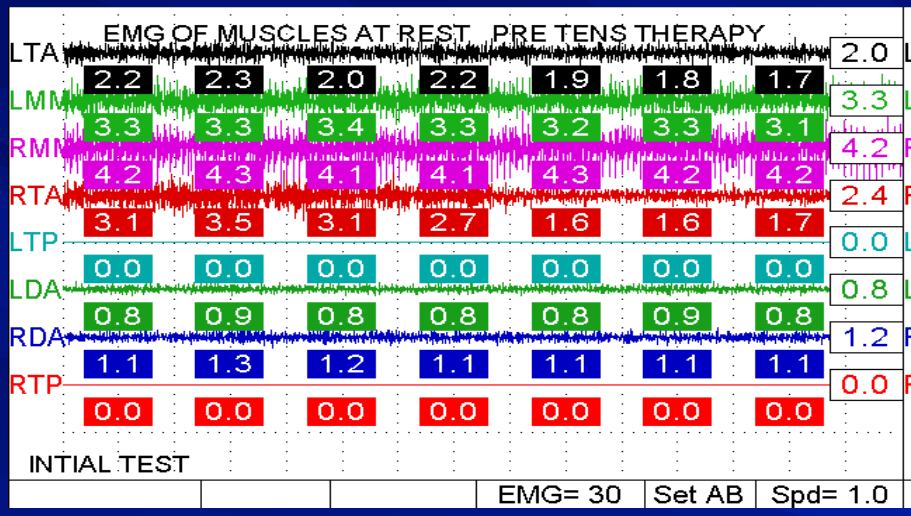
All closing strokes end in a point
occlusion is well defined

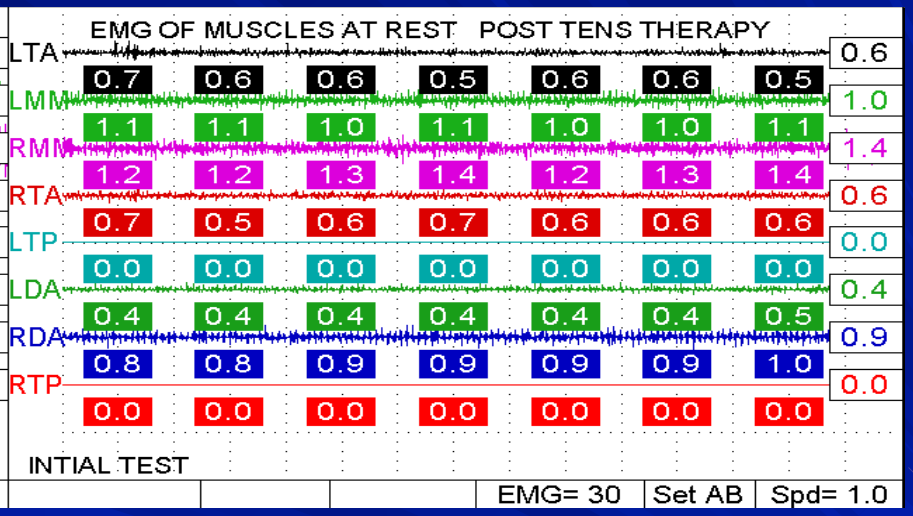


ELECTROMYOGRAPHY (EMG) OF MANDIBULAR POSTURAL/MASTICATORY MUSCLES

Comparison of EMG Muscles at Rest

Pre and Post TENS Therapy

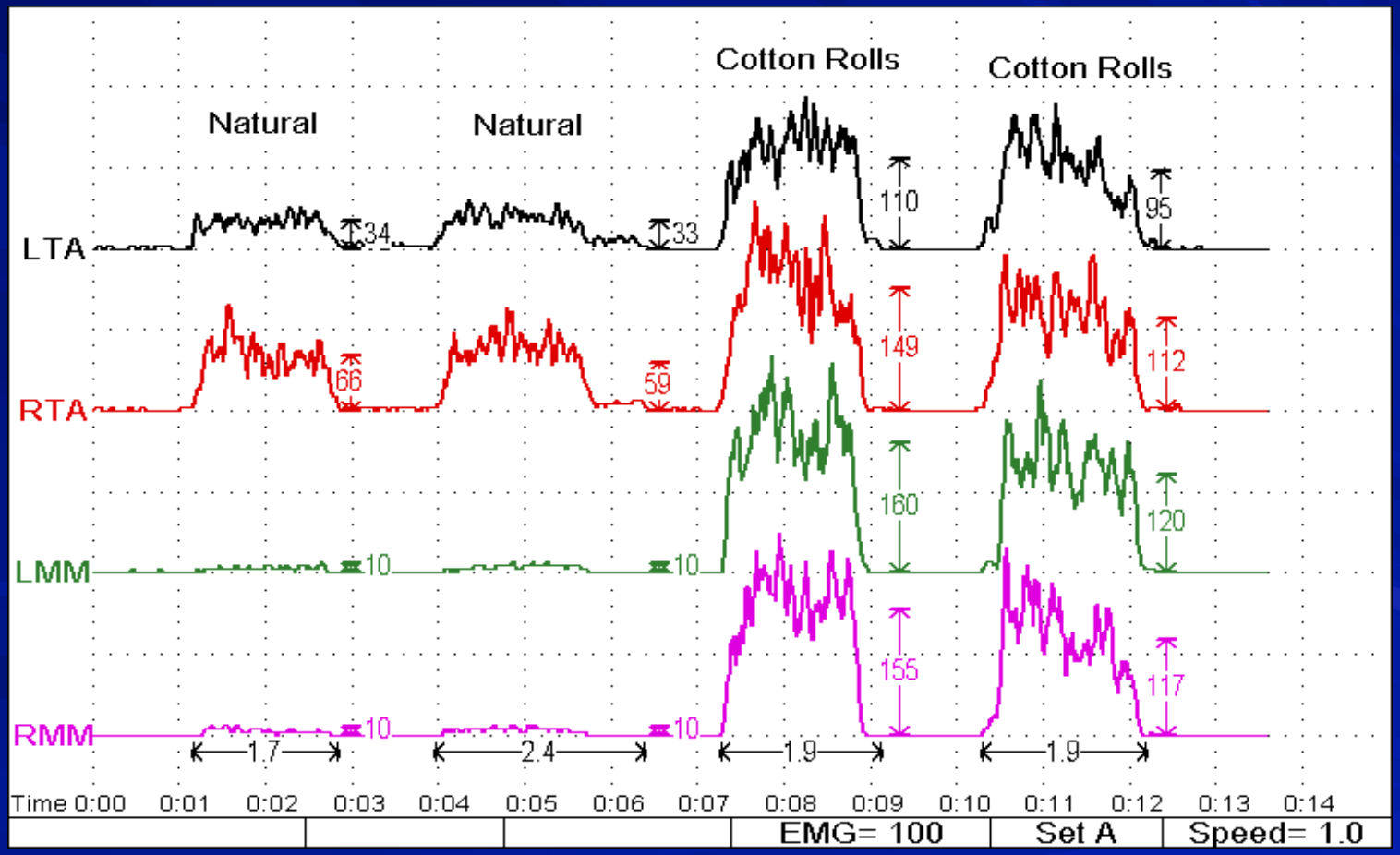




Muscle Activity Function = Clench

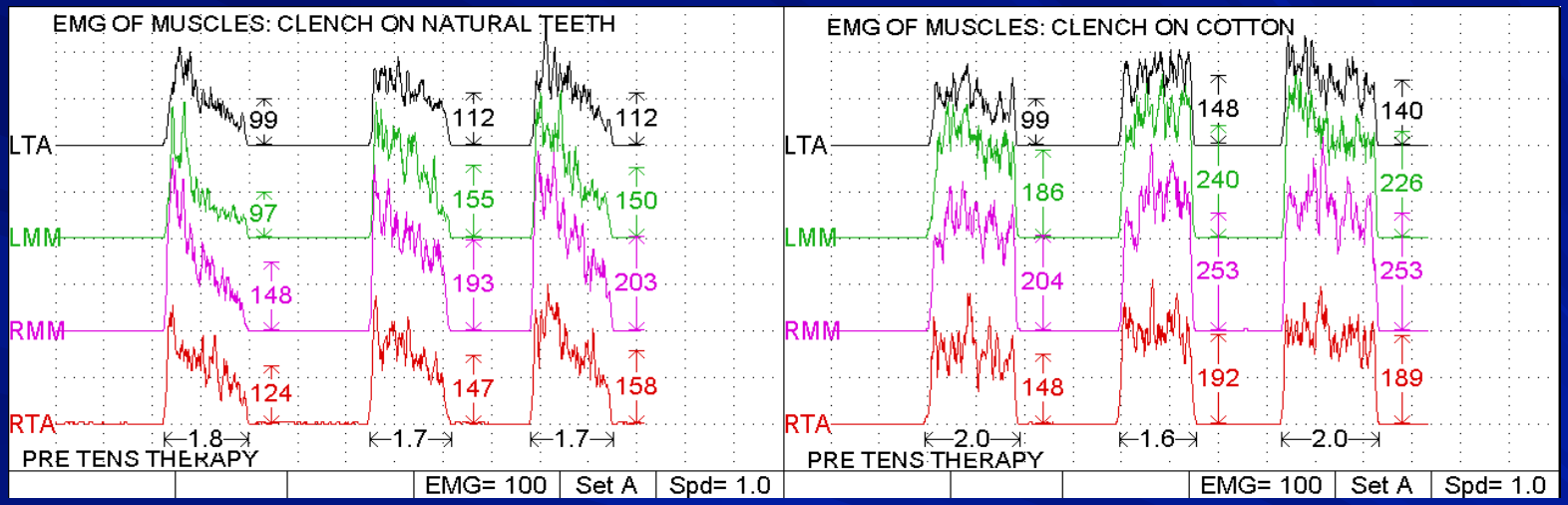
Natural teeth pre TENS v. cotton roll

Cotton clench shows potential functional improvement



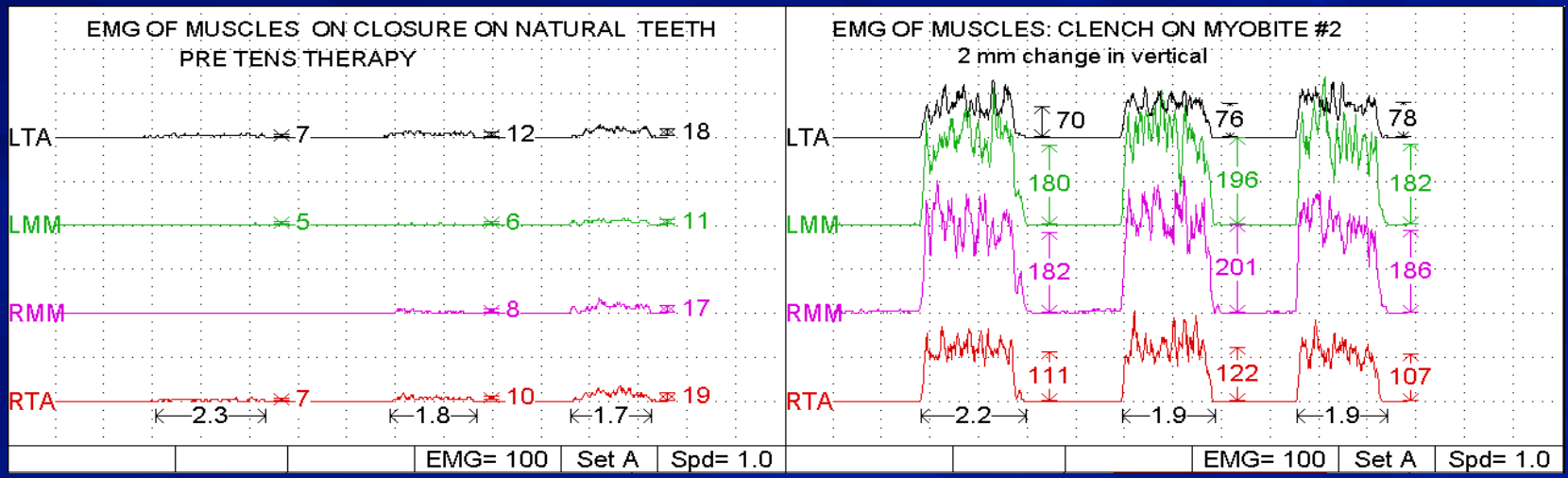
EMG Comparison of Muscle Function = Clench
Natural teeth v. Cotton rolls

Note: Improvement in function on cotton

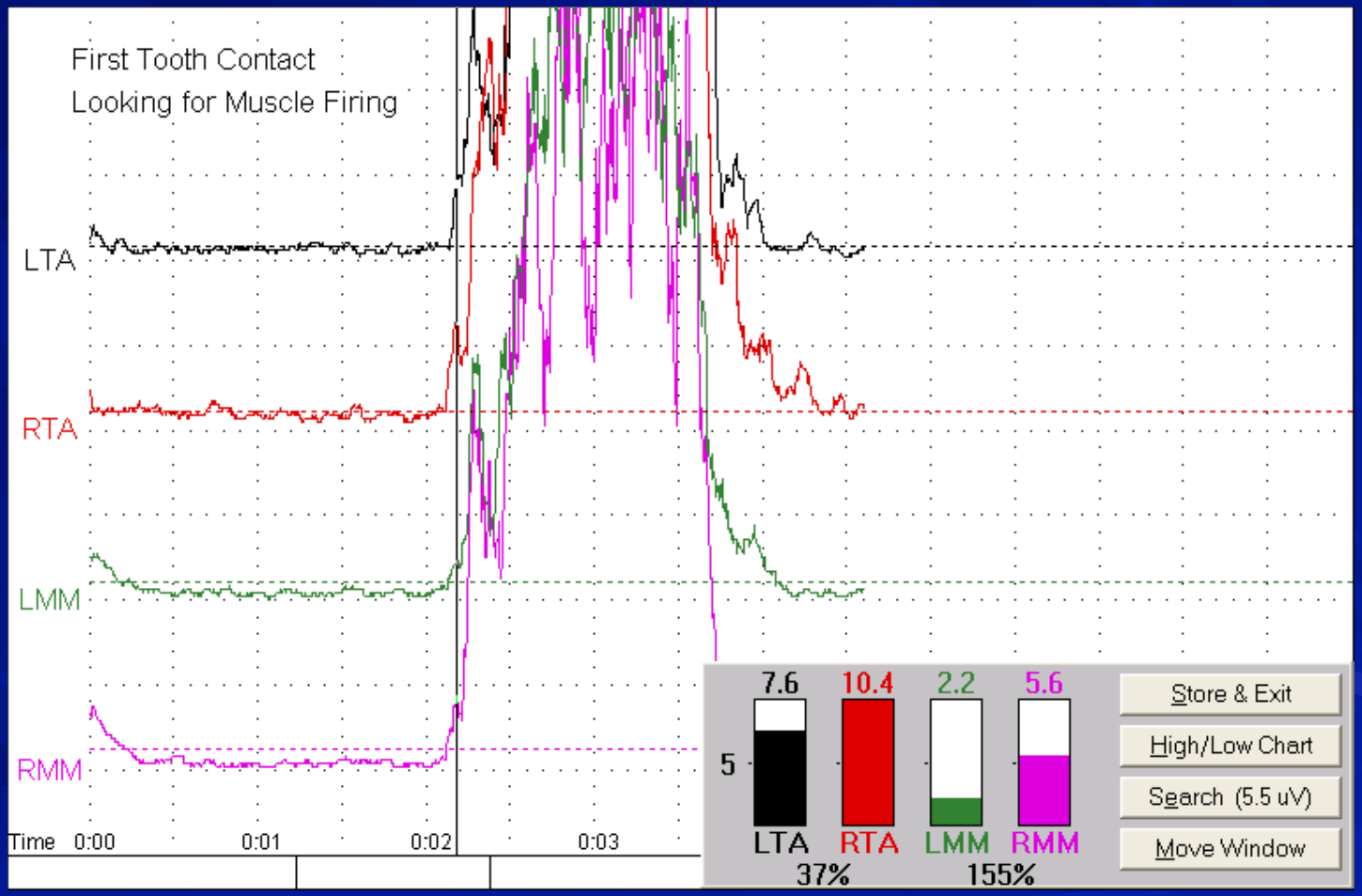


EMG Muscle Function = Clench

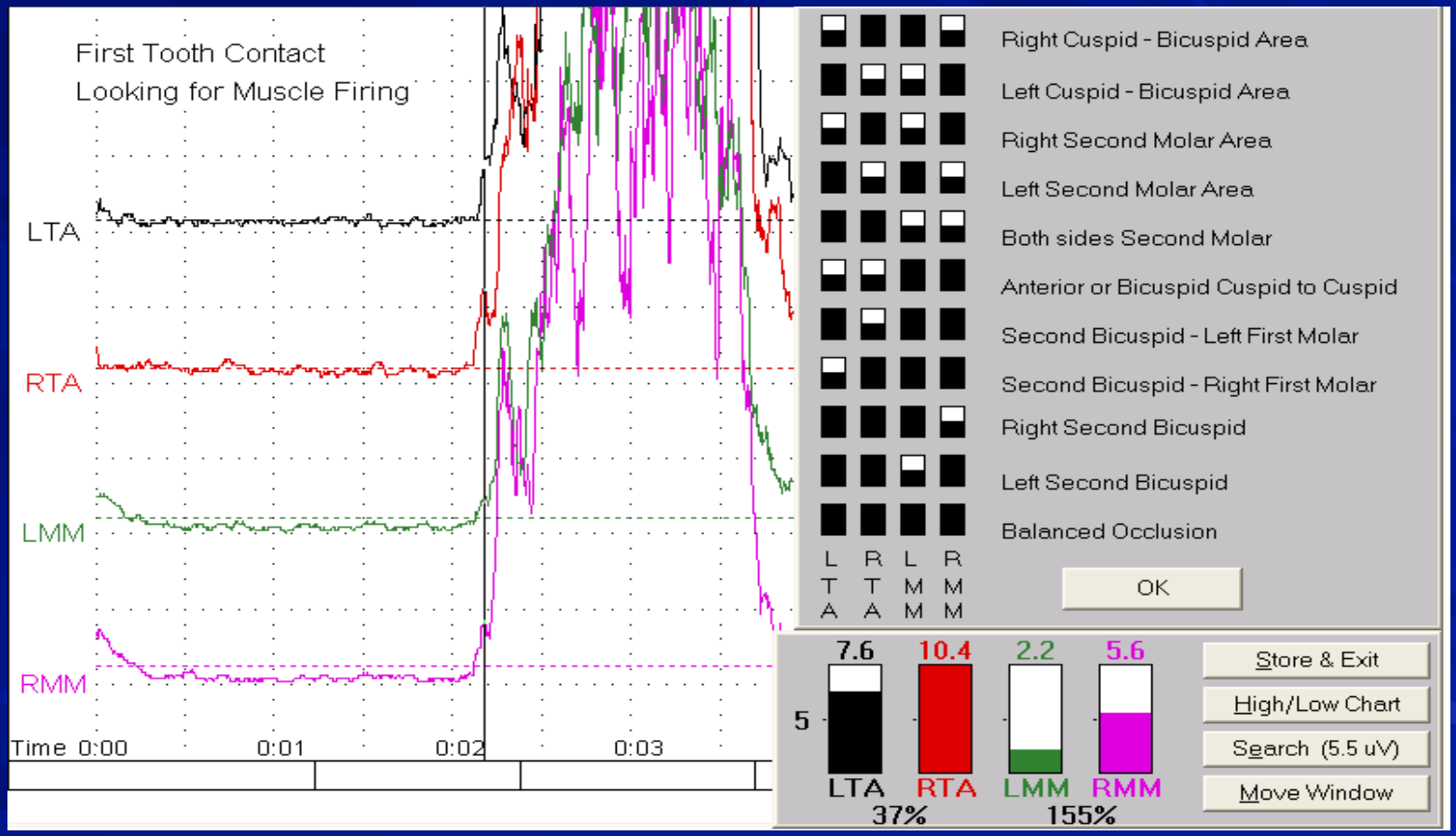
Natural teeth pre TENS v. neuromuscular myobite ™



EMG of Muscles
Pattern of motor unit recruitment on closure as a function of occlusal contacts

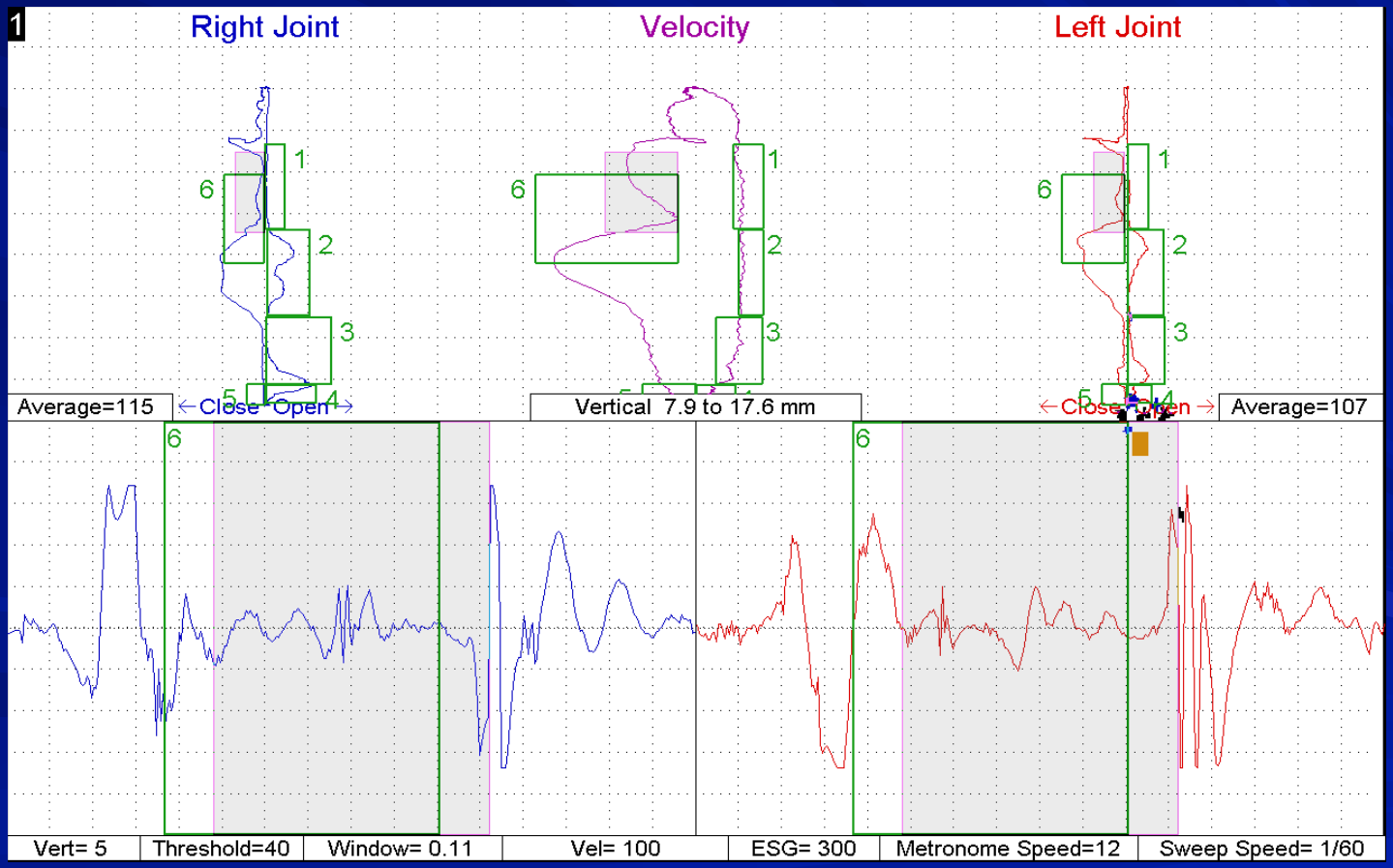


High Low Schematic
Aids in Occlusal Adjustment



ELECTROSONOGRAPY (ESG) OF TMJ JOINT SOUNDS

TMJ Electrosonography Time Domain Recording total sound opening/closing



Electrosonography at Wide Opening

Right Joint: High frequency high amplitude sound

Left Joint: High frequency moderate amplitude