

## Supplementary information. DRUST treatment guidance

<b>Preparation phase</b>		
<b>Re-education of wrist stabilizing muscles , conscious neuromuscular rehabilitation</b>		
<b>Treatment goal</b>	<b>Treatment technique</b>	<b>Description</b>
<b>Proprioception awareness</b> <b>Joint position sense</b>	Blinded active neutral wrist positioning	In therapy sessions and applies in daily activities
<b>Conscious pain free static wrist stabilization</b>	Isometric wrist stabilization during movement in elbow or shoulder Isometric wrist stabilization in kinetic chain (elbow, shoulder and forearm together)	Work on kinesthesia and joint position sense through maintaining static wrist position Moving the arm slowly while wrist maintains in neutral position without moving the wrist
<b>Unconscious static wrist stabilization</b>	Isometric wrist stabilization in kinetic chain	Mirror movements with distraction or holding a balloon up in the air with different hand/wrist positions.
<b>Strengthening phase (starts when patient is able to a proper performance of the exercises of preparation phase)</b>		
<b>Strengthening of wrist/DRUJ stabilizers, improvement of neuromuscular control and endurance of wrist muscles, unconscious neuromuscular rehabilitation</b>		
<b>Strengthening of wrist stabilizers</b>	Isometric wrist stabilization	Isometric wrist strengthening aggravated with increasing repetitions and weight (0.5 to 2 kg)
<b>Strengthening PQ</b>	Eccentric/concentric	Hammer exercise Sitting position with elbow flexed 90 degrees. Hold the hammer and move from neutral to supination and back (no pronation)
<b>Strengthening ECU</b>	Isometric elastic band exercise	ECU strengthening started in supinated or neutral position of the forearm
<b>Conscious wrist /DRUJ stabilization with PQ en ECU activation</b>	Horizontal tensioned elastic band exercise	Tighten the elastic band horizontally with a hand sized tube in the middle. Take the tube supinated and pronate to neutral. From that position move the arm holding the wrist and forearm stabilized.
<b>Functional training phase (starts when patient is able to a proper performance of the exercises of strengthening phase)</b>		
<b>Combination of conscious and unconscious, neuromuscular exercises, sport- and work-specific activities.</b>		
<b>Unconscious wrist /DRUJ stabilization with PQ en ECU activation</b>	ECU/PQ concentric in kinetic chain	Horizontal tensioned elastic band with a hand-sized tube in the middle. Take hold of the the tube supinated and pronate to neutral while holding a balloon in the air. Racket exercise the racket in supinated grip so PQ and ECU are activated. Rolling a ball on the racket or keeping ball or balloon in the air with racket
	Reaction-force exercise	Throwing and catching a horizontal stick with a pronated arm so that pronation is activated
	Weight-bearing exercise	From light (horizontal) to heavy (pushing) on stable or unstable surface while activate pronation muscles
	Plyometric exercise	Standing while hands placed on the wall in front. Elbows flexed to bring chest close to the wall. Push back dynamically, so hands come off the wall. Fall, controlled, back to the wall, while flexing the arms.

Adopted from the original by Hagert, Rehabilitation Strategies and Treatment Plan in Wrist

Proprioception Re-education <sup>6</sup>

