



The Technology of Human Performance

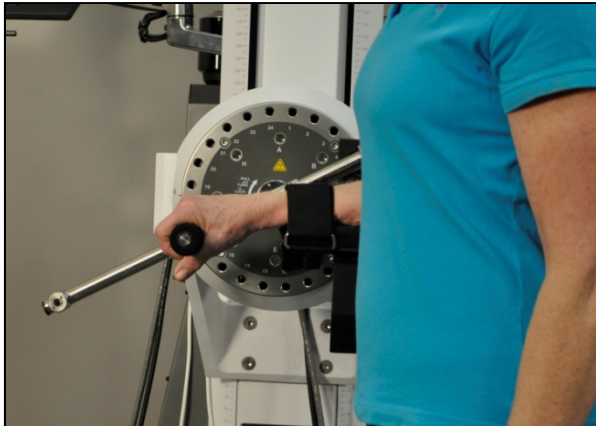
Treatment Guidelines – Wrist

These guidelines may be applicable to a variety of diagnosis, injuries and dysfunctions. Use your clinical judgment when proceeding on any course of treatment.

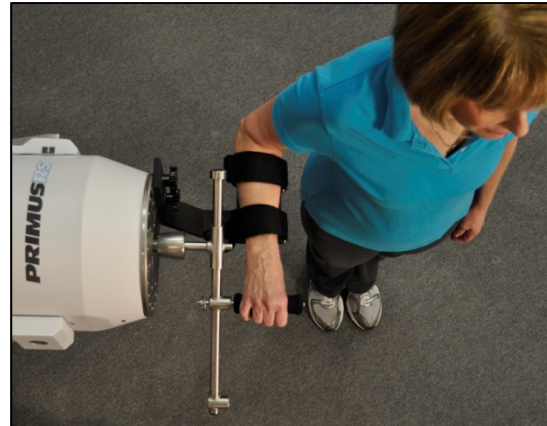
Description	The following represents suggested areas of assessment and uses of the PrimusRS for clients' with wrist involvement. This assessment focuses on the wrist; however you are encouraged to evaluate the client as a whole.
Contraindications	Treatment needs of a wrist can vary greatly based on diagnosis and intervention goals. Utilize your clinical knowledge and skills in determining the appropriateness of any treatment plan prior to beginning a program with a client. Always consider client safety a priority.
Early Intervention	There may be ROM deficits that will need to be addressed. Utilize the CPM mode to increase ROM when appropriate for diagnosis and/or surgical procedure.
Establish need	<ol style="list-style-type: none"> 1. Strength – implement an isometric comparison test for the wrist motions to compare injured side to non-injured side. 2. Endurance – to further establish need. 3. Neuromuscular coordination – CPM with target force. 4. Effects of repetition, if indicated. 5. Work or other functional tolerance (tool use, ADL, typing, etc...)
Develop Treatment	<p>Isometric and dynamic strength (endurance) of isolated muscle groups can be measured by performing isolated joint motions and, of combined muscle groups, by performing specific tasks. This will help determine if there is a weak area to focus on.</p> <p>Initiate a treatment program that includes the wrist motions for which you have established a need. Set initial resistance at 30% of current strength level. Perform exercise to fatigue. Set new goal based on exercise result for next session.</p> <p>In addition, you may perform a task analysis to determine appropriate exercises based on return to work, ADL or other functional needs.</p>
Primus Attachment Suggestions	<p>#701 - flexion and extension #601 - supination/pronation, ulnar/radial deviation #302 - supination/pronation, ulnar/radial deviation #504/502 – flexion/extension, tool use, functional strengthening</p>

Positioning Suggestions

Wrist Flexion/Extension



Position client in front of the PrimusRS facing the side.



Align the wrist with the axis of rotation of the shaft.

Set-up:

Exercise Head: Number five position. Adjust height so the clients' arm rests comfortably on the Arm Rest.

Attachment: - 701, Arm Rest

Tool Setup: Attach the Arm Rest to the Head. Either the right side (use ROM holes 5 and 8), or the left side (use ROM holes 20 and 17) may be used. Use the foam or plastic cylinder handle. Place handle in the A position. Adjust tool length to accommodate clients grip position, maintaining alignment of the wrist and the axis of rotation of the shaft. Adjust the Arm Rest platform to accommodate full flexion ROM.

Positioning Chair Setup: Not needed, but may be used if additional stabilization is desired.

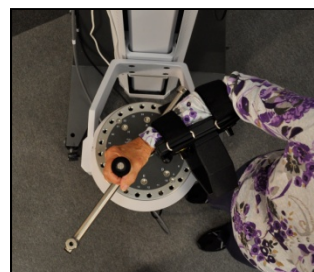
Client: Place client in front of the PrimusRS facing the side. Forearm should be placed on the Arm Rest, with the upper arm relaxed and by the client's side. Both right and left wrists may be exercised standing on the same side of the PrimusRS.

Alternate Set-Up Ideas:

- To reduce the effect of gravity, rotate the exercise head to position number 1 (see pictures below).



Head tilted to the #1 position



Overhead view - wrist in neutral

Wrist Ulnar/Radial Deviation

Set-up:

Exercise Head: Number five position.
Adjust height so the elbow is at approximately 90 degrees flexion.

Attachment: 601

Tool Setup: Position tool so the tab is at the top.

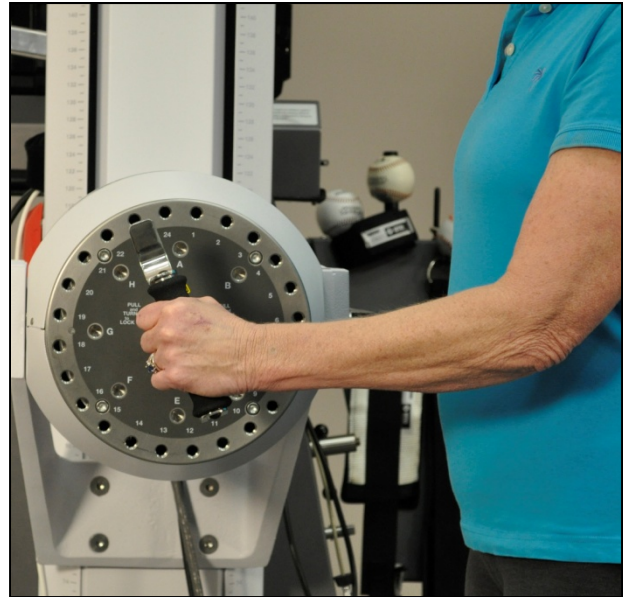
Positioning Chair Setup: Not needed, but may be used if additional stabilization is desired.

Client:

Left Hand - Place client to the right of and facing the exercise head.

Right Hand - Place client to the left of and facing the exercise head.

Upper arm should be relaxed and by the client's side.

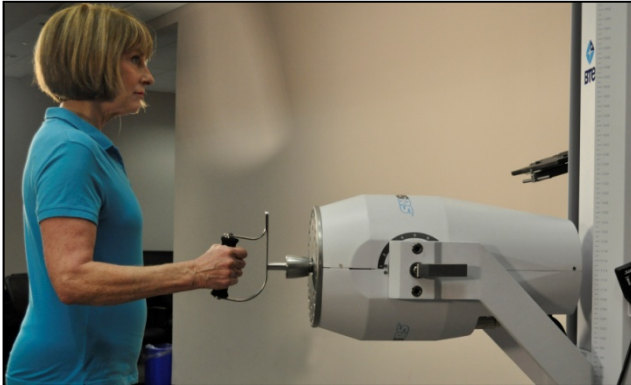


Left side ulnar/radial deviation

Alternate Set-Up Ideas:

- Change the height and/or angle of the head to accommodate client limitations or for a more functional simulation exercise.
- Use the 001 ROM Blocks to limit range of motion.
- Use attachment 302 for a different grip type.

Supination/Pronation



Positioning for Forearm Supination/Pronation – Side view.



Positioning for Forearm Supination/Pronation – Overhead view.

Set-up:

Exercise Head Tilt: Number five position

Attachment: 601

Tool Setup: 701 – Set height of head so the Primus shaft and the client's forearm form a straight line, as demonstrated in the pictures above.

Client Positioning Chair Setup: Not needed, but may be utilized for additional stabilization.

Client: Place client facing the PrimusRS slightly offset to the left or right side, depending on which side is exercising. Make sure the forearm is aligned with the axis of rotation of the exercise head shaft.

Alternative Set-up Ideas:

- Tool attachments 504, 502, 302 may also be used for supination and/or pronation. These may offer a more integrated or functional positioning.
- Use Range of Motion blocks (002) to control ROM.