EMMETT Therapies - “Degrees of Difference” project.

Cairns Cardiac Challenge data.

The data in this report was collected on the 20th and 21st of September 2015 during a fundraising event, the Cardiac Challenge, Cairns, Queensland.

Since 2007 the Cardiac Challenge, a fundraising event for the Cairns Base Hospital Foundation, has raised money to improve cardiac care services in far north Queensland. This year 250 cyclists participated in the 3 day bike ride of 333km from Cairns to Cooktown.

Four experienced Emmett therapists provided support to cyclists participating in the event. Riders experiencing muscle ache or tension were assisted with treatment ranging from 2 to 7 minutes. The quick and effective treatment allowed riders to continue the ride with improved mobility and without muscle pain.

In-between providing treatments for riders, these four therapists also gathered data for the “Degrees of Difference” project from riders, spectators and supporters.

The Emmett Therapists who volunteered their services during the Challenge were Gemma Dustin, Rusty Boterhoek, Sharna Emerson and Amanda Mode.

Data Gathering.

Data was collected using an angle measuring app on a smart phone. The app used was “yROM” and the procedures of how to measure range of movements for the project were followed as outlined in the “Emmett - Protocol to measure moves” document.

Data Cleaning

Data on the data collection sheets was clarified with Gemma Dustin (senior data collector for this event) by the report author, following receipt of the data sheets.

Data with positive changes between before and after measurements are shown in the graphs below. In many cases data was gathered on each of the five Emmett moves being measured on each participant. However not all individuals had all five moves conducted. Data on each move was also not recorded on every occasion.

The primary focus for the Emmett therapists participating in the Challenge was to respond to the requests of the Cardiac Challenge bike riders and data collection in the field does not always go as planned, however the data gathered here is valuable evidence of the degrees of change for the participants in this study.

Results

The data was analysed using a paired T-Test whereby the means of the two sets of data (before and after treatment) are compared: with the assumption that they will be the same. A measure of statistical similarity or difference is the p-value. A p-value of < 0.05 indicates that there is a 95% chance that these scores are significantly different. This is the usual p-value measure of statistical significance used in research.

Analysis of each of the Emmett moves had a p-value of < 0.05.

The difference between the two measurements (before the Emmett move and after the Emmett move was performed) was statistically significant for every move and therefore cannot be explained by chance alone.

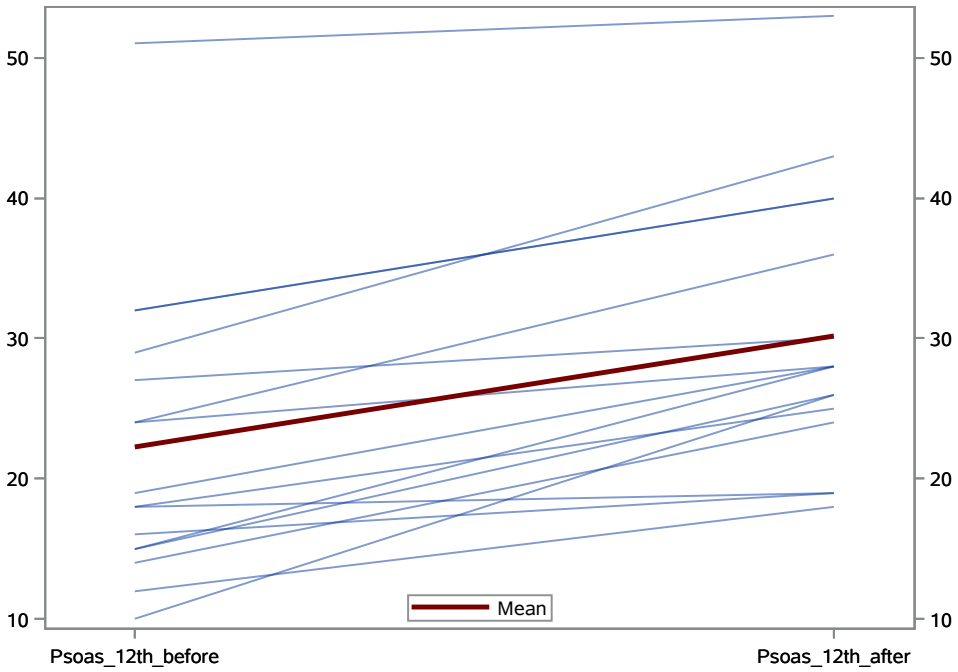
The following are the graphical representation of the data for each of the Emmett moves used in this study.

Greg Wills BAppSci (OT) Master of Health Science

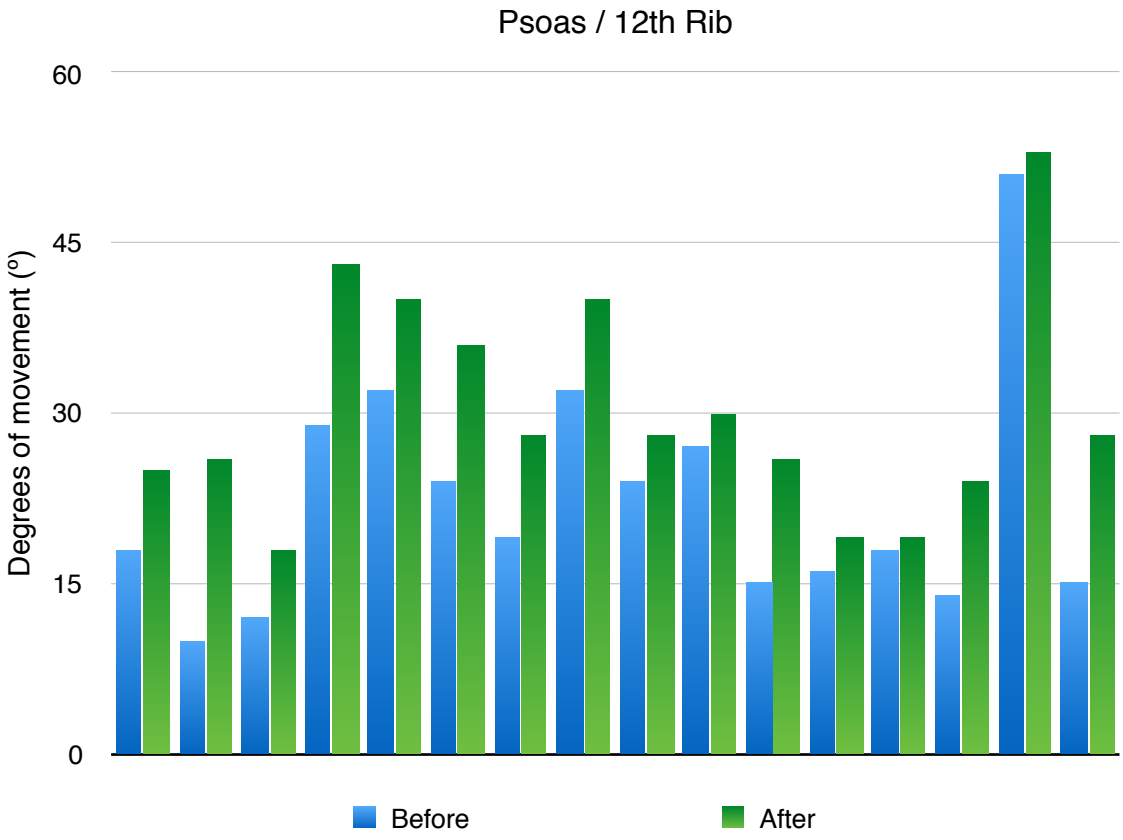
21st October, 2015

Psoas / 12th Rib

Number of participants (N) = 16, p-value < 0.001



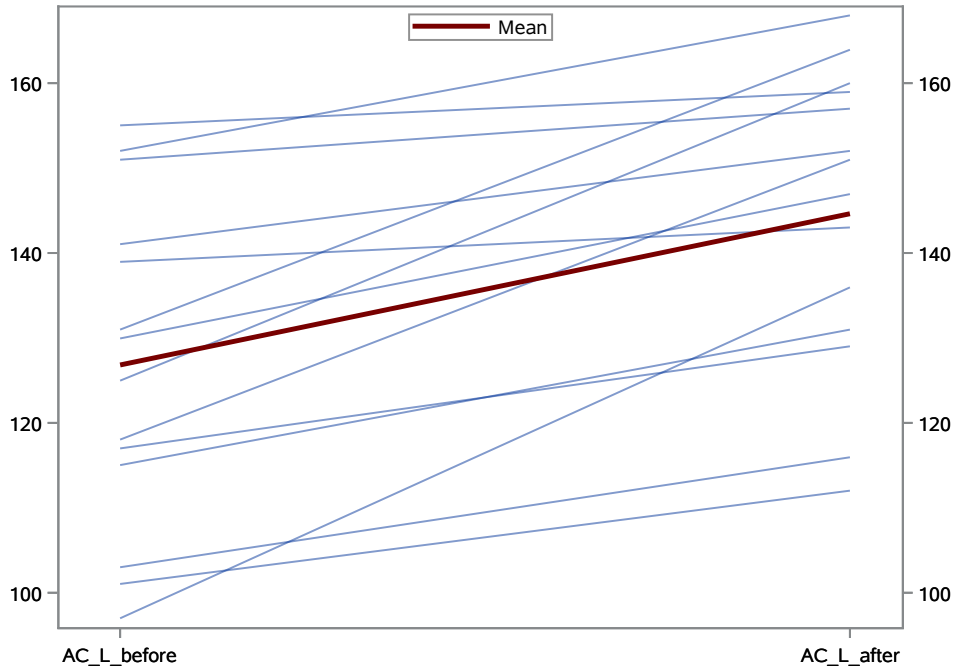
Graph 1. Paired scores of Psoas / 12th Rib move before and after treatment with mean trend-line.



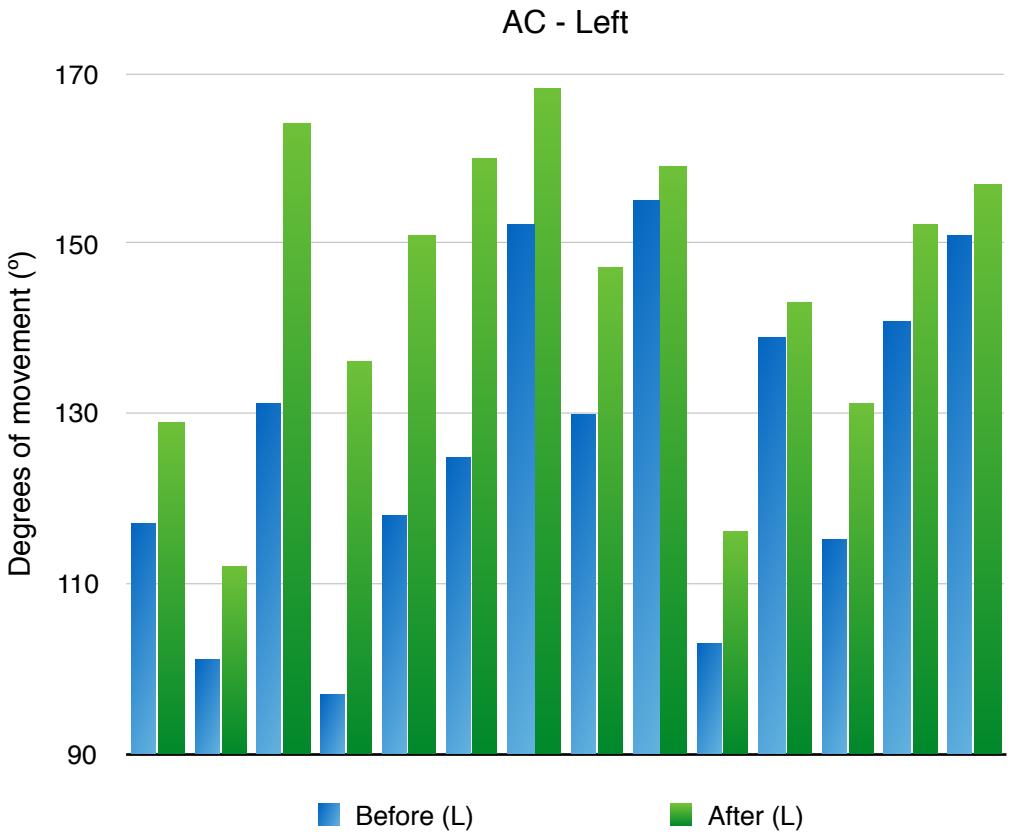
Graph 2. Bar graph of Psoas / 12th Rib move - before and after treatment.

AC - Left side

Number of participants (N) = 14, p-value < 0.001



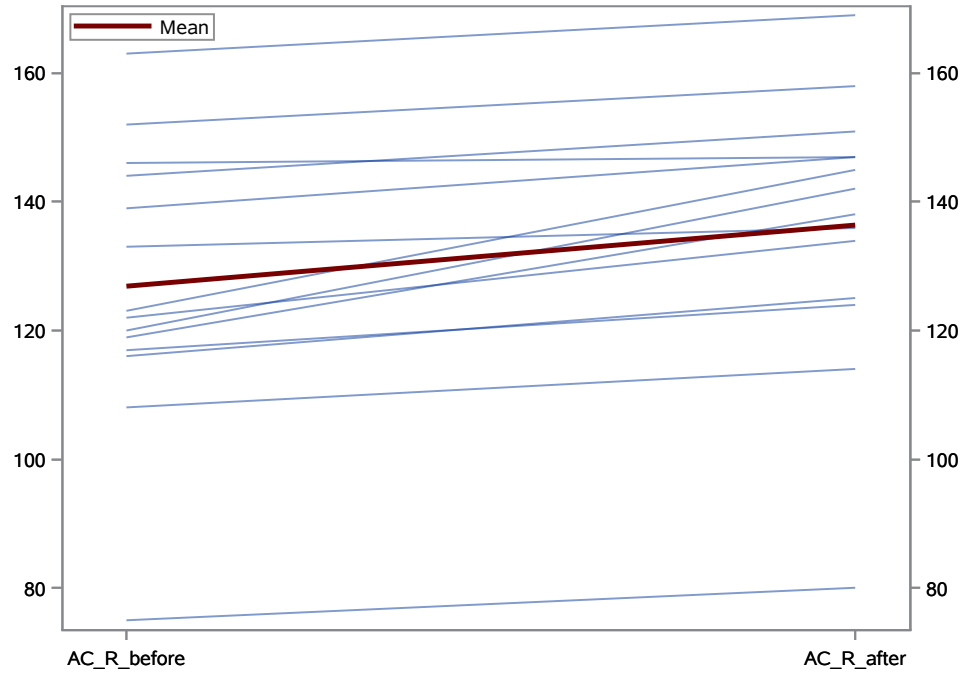
Graph 3. Paired scores of AC move (left side) before and after treatment with mean trend-line.



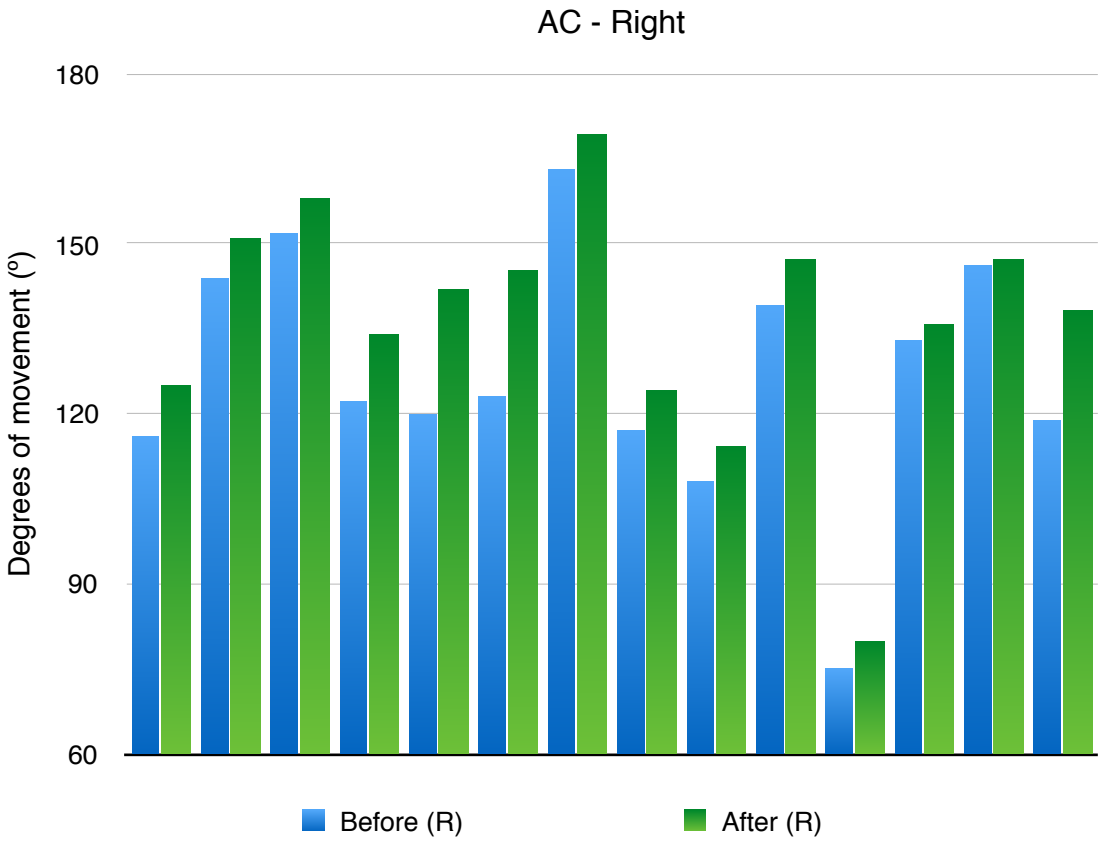
Graph 4. Bar graph of AC move - before and after treatment (left side).

AC - Right side

Number of participants (N) = 14, p-value < 0.001



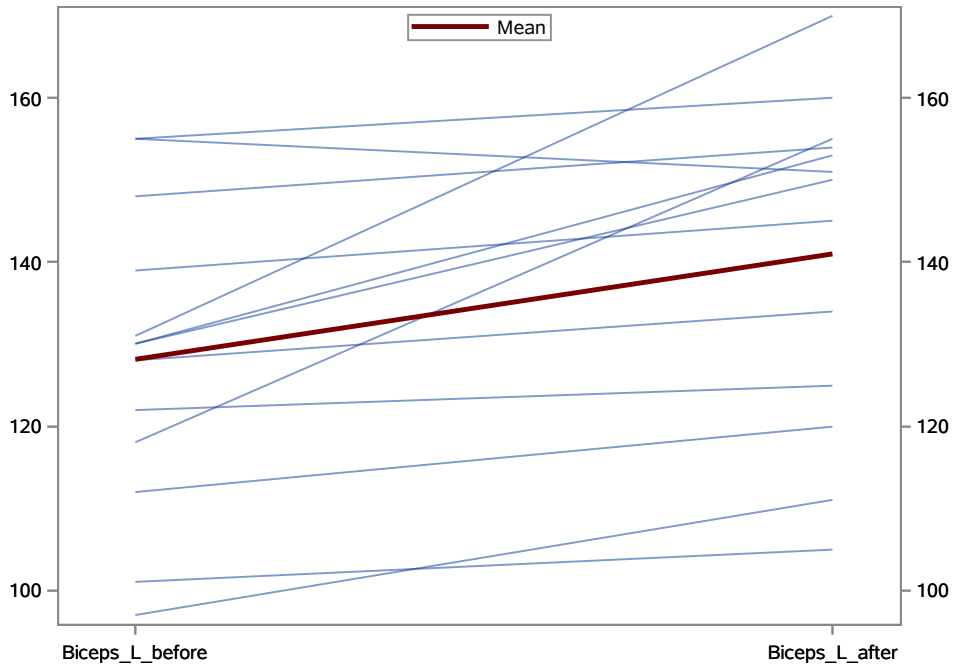
Graph 5. Paired scores of AC move (right side) before and after treatment with mean trend-line.



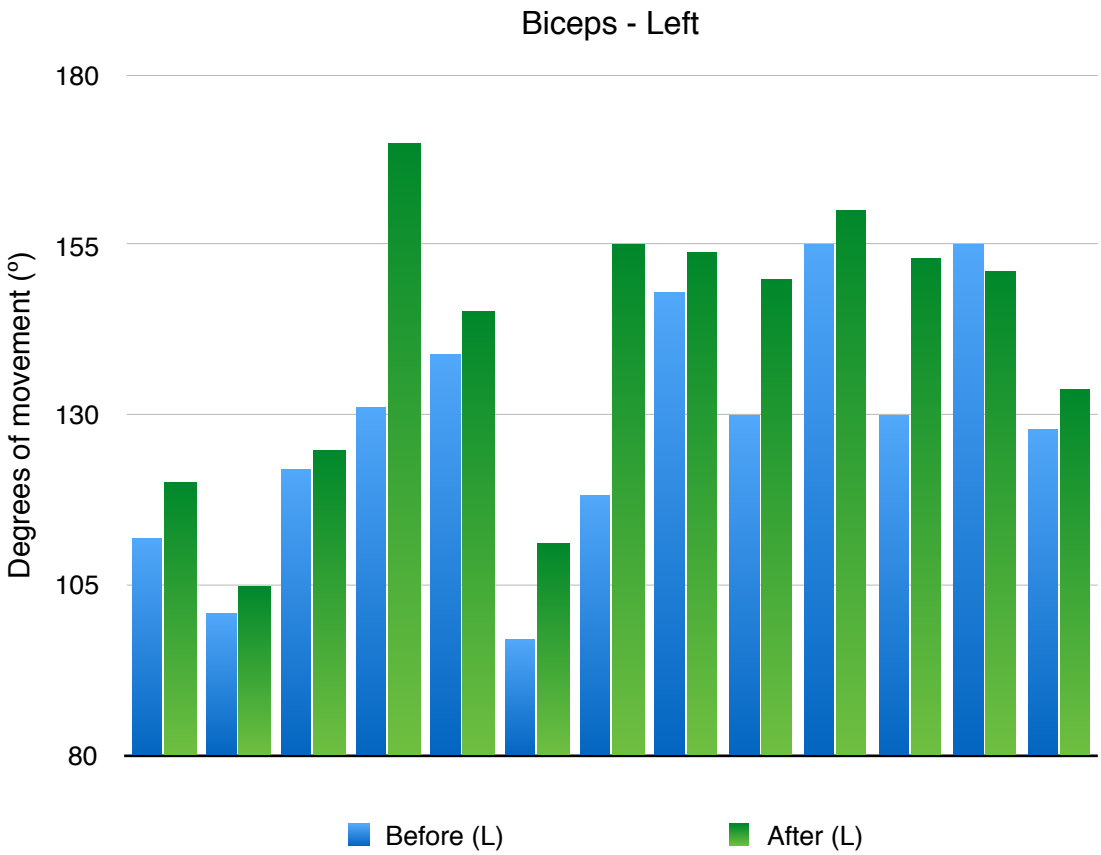
Graph 6. Bar graph of AC move - before and after treatment (right side).

Biceps - Left

Number of participants (N) = 13, p-value = 0.004



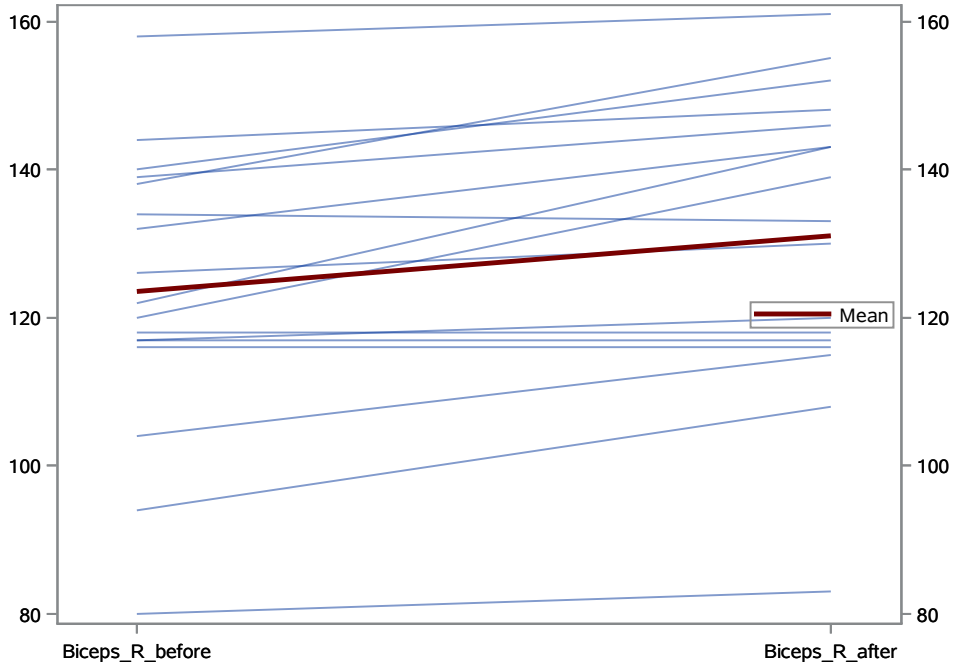
Graph 7. Paired scores of Biceps move (left side) before and after treatment with mean trend-line.



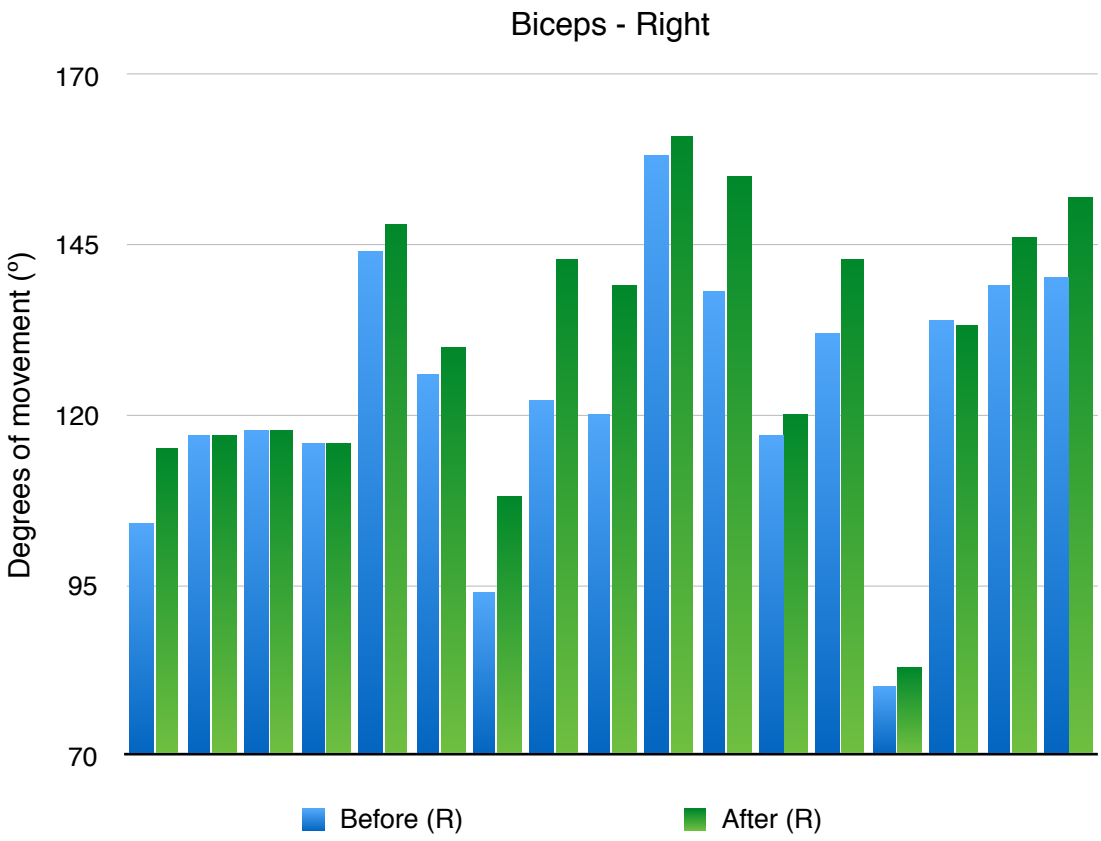
Graph 8. Bar graph of Biceps move - before and after treatment (left side).

Biceps - Right

Number of participants (N) = 17, p-value < 0.001



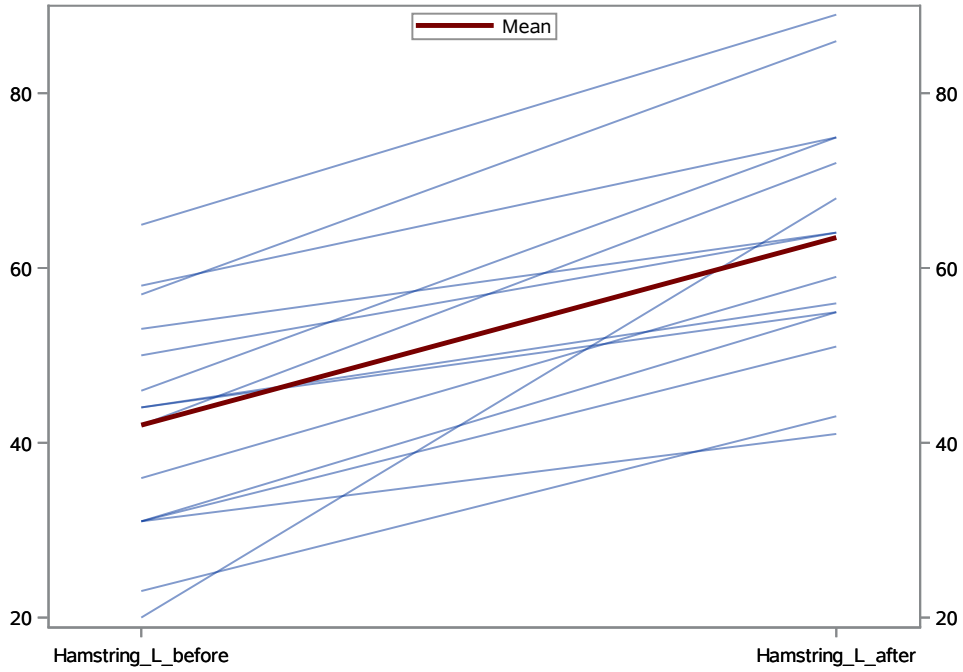
Graph 9. Paired scores of Biceps move (right side) before and after treatment with mean trend-line.



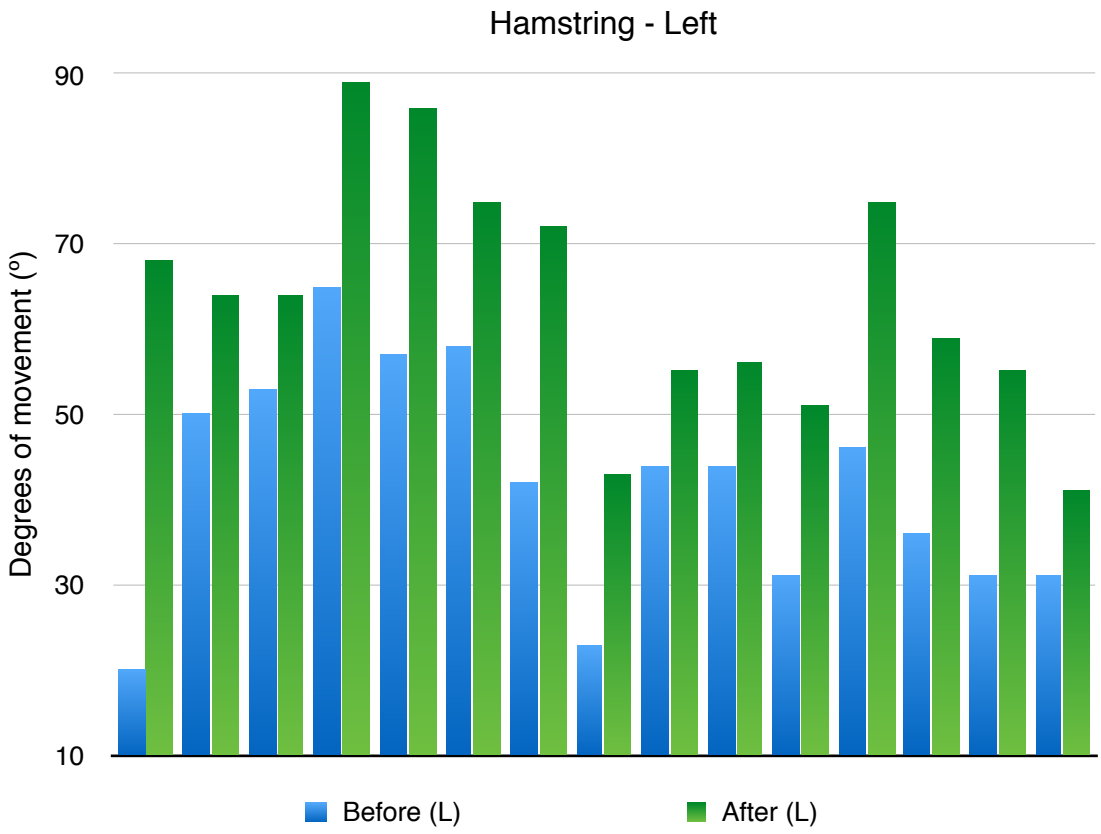
Graph 10. Bar graph of Biceps move - before and after treatment (right side)

Hamstring - Left

Number of participants (N) = 15, p-value < 0.001



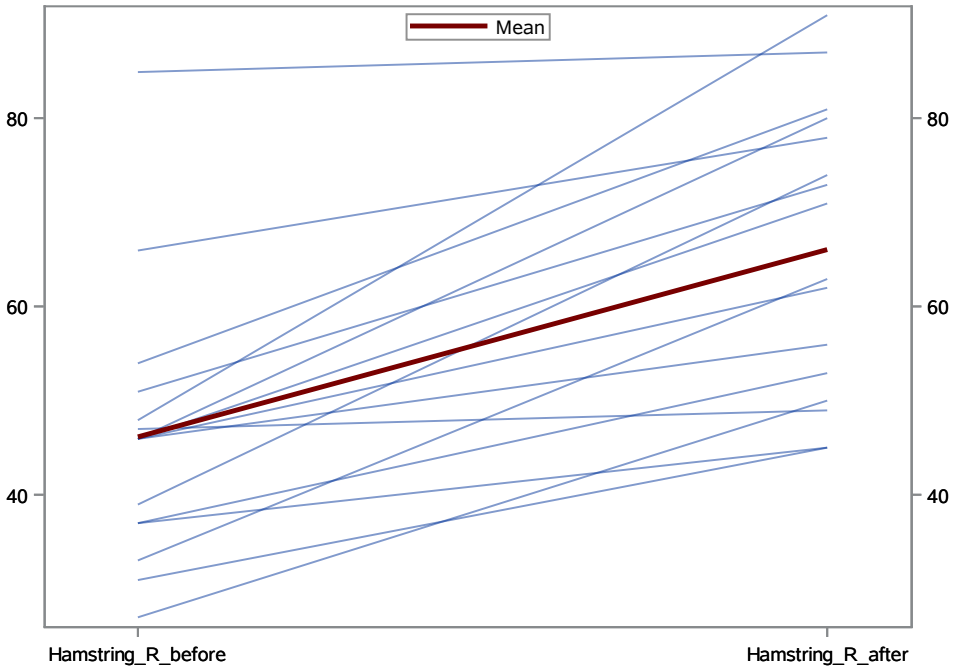
Graph 11. Paired scores of Hamstring move (left side) before and after treatment with mean trend-line.



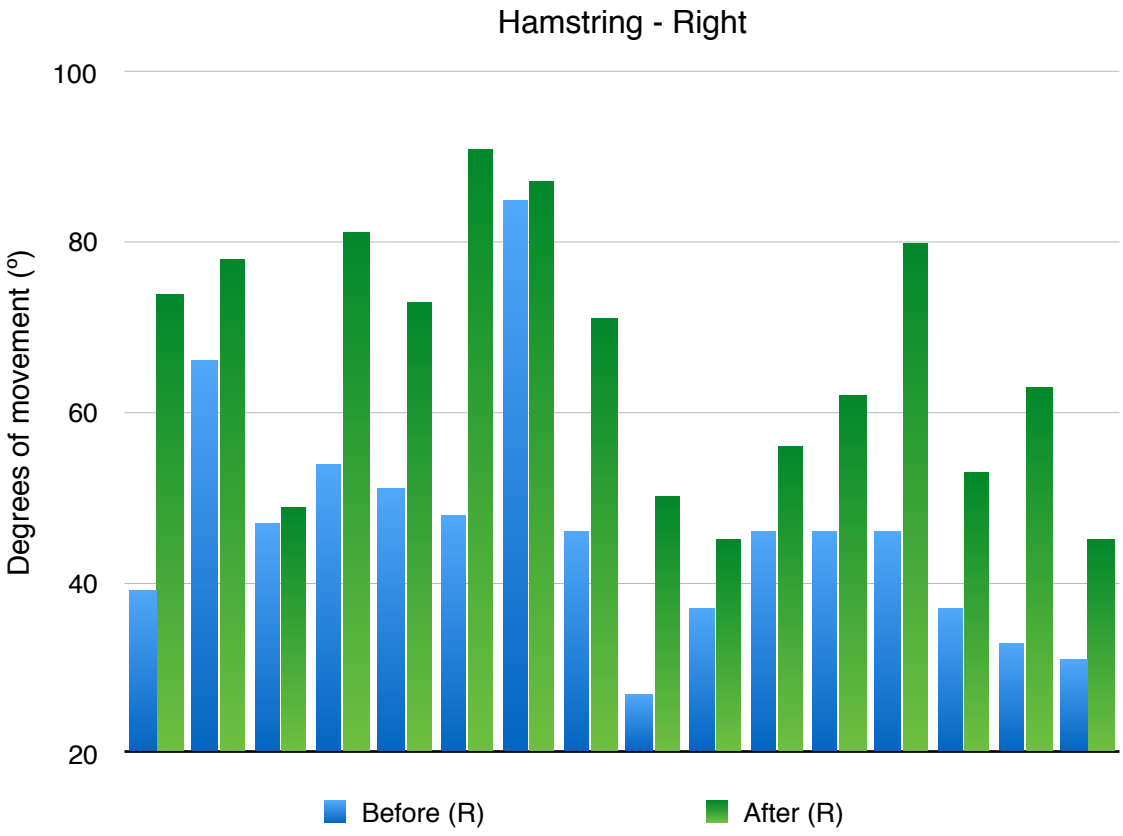
Graph 12. Bar graph of Hamstring move - before and after treatment (left side).

Hamstring - Right

Number of participants (N) = 16, p-value < 0.001



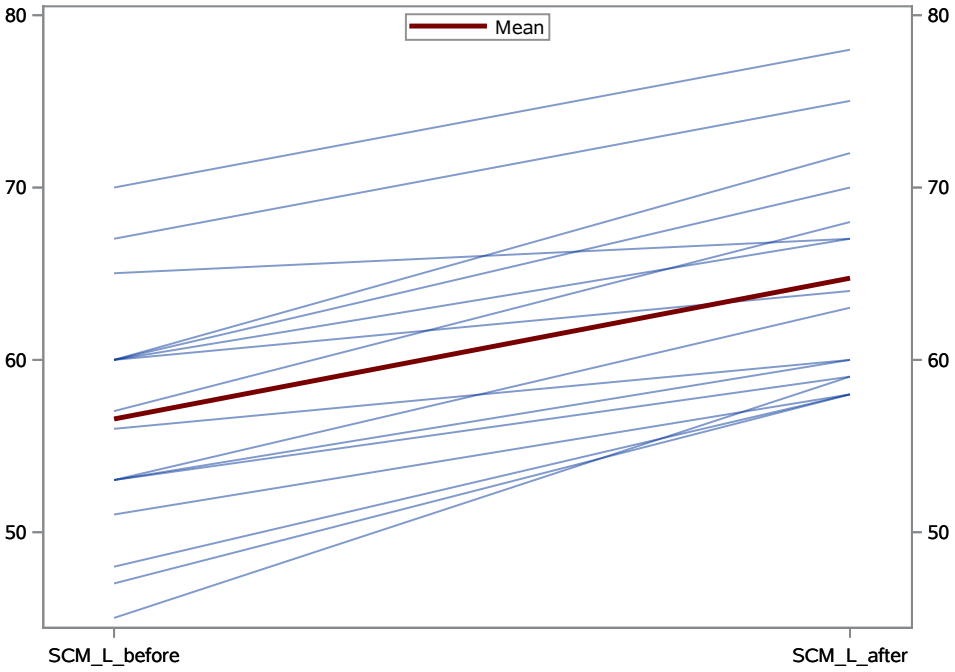
Graph 13. Paired scores of Hamstring move (right side) before and after treatment with mean trend-line.



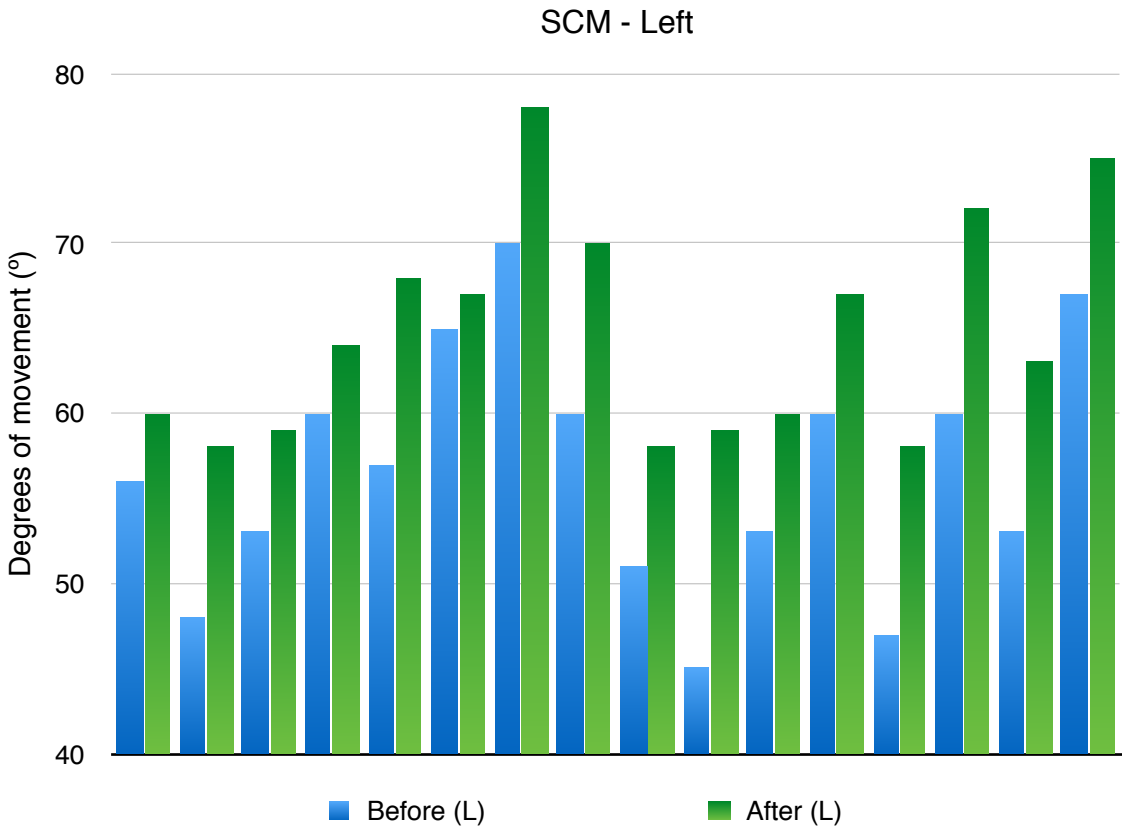
Graph 14. Bar graph of Hamstring move - before and after treatment (right side).

SCM - Left

Number of participants (N) = 16, p-value < 0.001



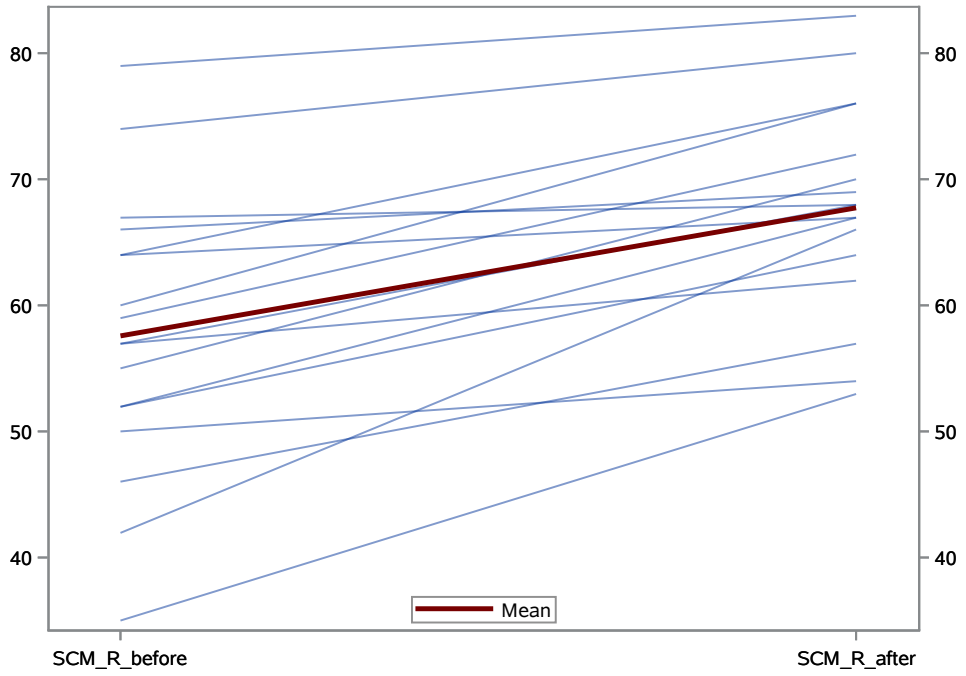
Graph 15. Paired scores of SCM move (left side) before and after treatment with mean trend-line.



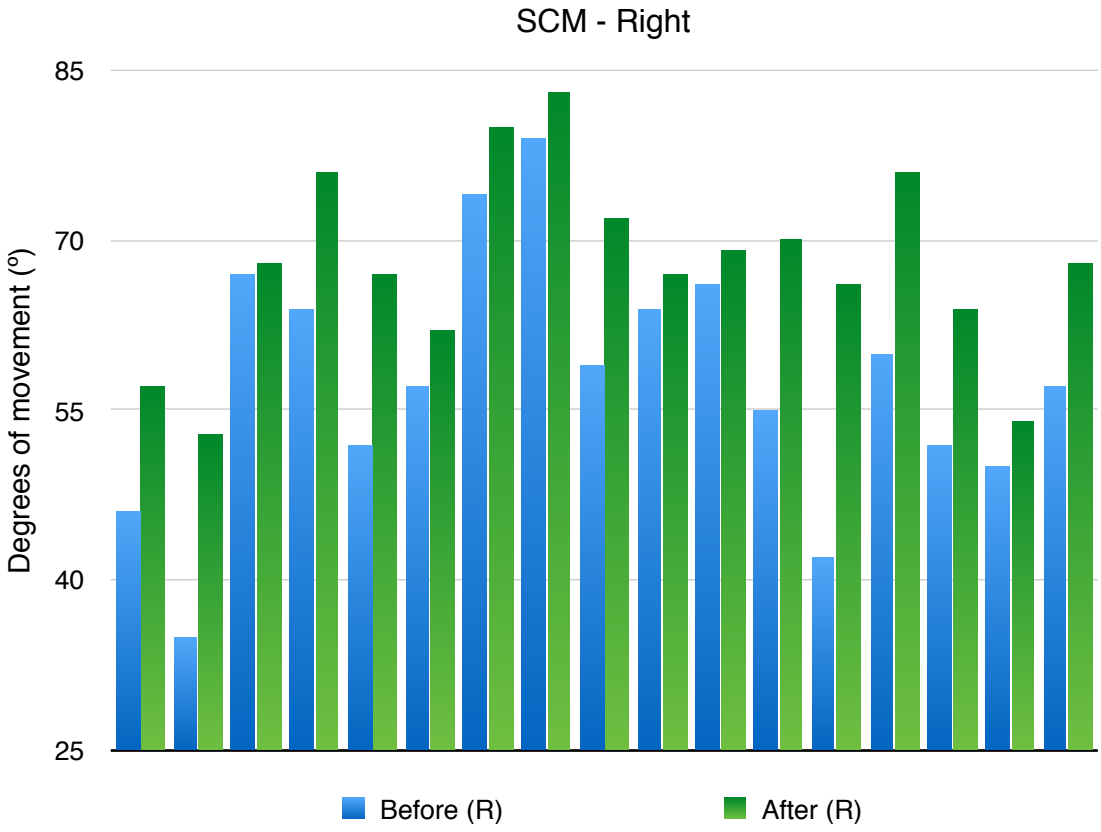
Graph 16. Bar graph of SCM move - before and after treatment (left side).

SCM -Right

Number of participants (N) = 17, p-value < 0.001



Graph 17. Paired scores of SCM move (right side) before and after treatment with mean trend-line.



Graph 18. Bar graph of SCM move - before and after treatment (right side).