What is this research all about?

Knee pain and physiotherapy treatment are familiar to people who are hypermobile and in pain. To tackle the pain, hypermobile people are often advised to do strengthening exercises however, there is a common belief that it takes ages to strengthen. At Imperial College Healthcare NHS Trust in West London, we carried out a study to look at whether hypermobile people with knee pain strengthen at the same rate as other people. As many of your members volunteered to take part in this study we wanted you to be amongst the first to hear the results.

How did we do this?

We did this research when the terms Joint Hypermobility Syndrome and Generalised Joint Hypermobility were in use and so we’ve continued to use these terms here. We had 3 different groups of volunteers.

Group 1: People with Joint Hypermobility Syndrome (JHS) and knee pain; JHS group.

Group 2: People with Generalised Joint Hypermobility and knee pain (increase joint flexibility without the widespread symptoms); GJH group.

Group 3: People with no extra joint flexibility and knee pain; control group.

All the volunteers were given strength exercises to do for 16 weeks. The exercises varied depending on their pain level, exercise level and their own personal goal. They were asked to do the exercises 3 times a week either at home or in the gym. The volunteers were asked to come in to see the researchers who were physiotherapists every two weeks to see how they were getting on with the exercises, to progress the exercises and measure their leg muscles’ strength and knee pain level.

To measure the leg strength a computerized leg press was used. The leg press was able to measure strength as the knee was bending (this is called an eccentric contraction) and as the knee was straightening (this is called a concentric contraction).

How many people took part?

102 people volunteered for the study.

In group 1 (JHS) there was 47 volunteers

In group 2 (GJH) there was 29 volunteers

In group 3 (control) there was 26 volunteers

Not everyone that volunteered was able to complete the study because of work commitments or personal reasons. The number of people that were able to complete the whole 16 weeks of exercises was

Group 1 (JHS): 31 volunteers

Group 2 (GJH): 20 volunteers

Group 3 (control): 21 volunteers

We were aiming to finish with 20 in each group so we are very grateful for the participation of all the volunteers.
Examples of some of the exercises that were given out
So what did we find?

We found lots of interesting things.

Muscle related things.

♦️ All groups got stronger.
♦️ People in the JHS group were able to get stronger at the same rate as the other two groups.
♦️ Although people in the JHS group got stronger, they were weaker than the other 2 groups.
♦️ People in the JHS group exercised for 11 weeks before they reached the starting strength of the people in the GJH group when straightening their knee.
♦️ People in the JHS group were exercising for 16 weeks before they reached the starting strength of the people in the GJH group when bending their knee.

♦️ People in the GJH group were stronger than the other two groups when straightening their knee.

Pain level related things.

♦️ People in the JHS group started with a higher level of pain compared to the other groups.
♦️ All groups had less knee pain at the end of the study.
♦️ As muscle strength improved so did pain.

Function and activity related things.

♦️ People in the JHS group started with poorer knee function and were less active than the other two groups.
♦️ All group had better knee function and did more activity at the end of the study.
♦️ On average, the activity of the people in the JHS group had improved from an equivalent of carrying out the rubbish to walking 2 miles.

Average percentage improvement in pain after 16 weeks

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<th>JHS</th>
<th>GJH</th>
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<td>57% *</td>
<td>46%</td>
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* Clinically meaningful

IN SUMMARY

People with JHS can strengthen at the same rate as the other two groups. They start weaker so it takes many weeks to reach a good level of strength. After gradually progressing exercises for their leg muscles, people with JHS were stronger, had less knee pain, better knee function and were more active.

CONTACT INFORMATION

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