

# Knee arthrosis with oedema in a 64-year-old male

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## HIGHLIGHTS

A 64-year-old male diagnosed with arthrosis with oedema (large cartilage injury Grade III-IV), used the Delta Laser (980 nm and later 905 nm) to treat his left knee. After three months of daily self-treatments most of the pain was gone and his Western Ontario and McMaster Universities Arthritis Index (WOMAC) score improved from 47 to 82 (0 – worst possible, 100 – best possible). After six months of coMra-Therapy his WOMAC score improved to 89-91 and remained at this level. After one and a half years following the onset of symptoms he treats himself only now and then when there is a minor relapse.

## ABSTRACT

A 64-year-old male experienced strong pain, stiffness and swelling of his left knee. He was diagnosed with arthrosis with oedema, and MRI scans revealed degenerative substance loss in the pars intermedia of the medial meniscus and large cartilage injury Grade III-IV.

The male started coMra-Therapy treatments with the 980 nm Delta Laser on April 27, 2012 according to the Traumatology 10 and Universal 3 treatments (coMra-Therapy User Guide), daily for four months without taking breaks. On June 10th he switched from the 980 nm to the 905 nm Delta Laser. During the course of this study the male filled out Western Ontario and McMaster Universities Arthritis Index (WOMAC) self-assessment questionnaires.

After the first month of coMra-Therapy there was no improvement. The WOMAC score remained at 45-47 (0 – worst possible, 100 – best possible) and there was severe pain during this period: the most severe level was between 5 and 7 (on a scale of 0-10). After the fifth week of treatment the pain started to decrease gradually and after three months of treatments most of the pain was gone. The WOMAC score improved to 82, but the male continued treatments with breaks, in the hope of a full knee recovery. After six months of coMra-Therapy his WOMAC score improved to 89-91 and remained at this level. In December 2013, one and a half years after the onset of symptoms he treats himself only now and then when there is a minor relapse.

## CASE PRESENTATION

A 64-year-old male experienced onset of sudden pain in the left knee on 8th April 2012 while out walking. There was no immediate cause. However, five years prior to this an intensive week of dancing in cold and wet weather resulted in knee problems, including pain, stiffness and reduced mobility for approximately one month, and then the symptoms disappeared. However, since the April 2012 episode, the pain continued to increase, while the ability to stand on his legs and walk decreased and the need to protect the leg and be careful with sleeping positions also increased. In conjunction with this the knee was so swollen that it did not flex.

On 3rd May 2012 a medical doctor diagnosed arthrosis with oedema, with the prognosis that it would generally get worse in time. Later in July a second doctor confirmed the diagnosis.

The male went to a physiotherapist who confirmed the diagnosis, gave some exercises for strengthening the muscles and gave as a prognosis: "it will go up and down but in the long term get worse".

On July 10, 2012 the male had an MRI scan of the left knee. From the radiologist's conclusion:

***“Degenerative substance loss in the pars intermedia of the medial meniscus and evidence of the beginning of a linear crack in the dorsal horn area. Large cartilage injury Grade III-IV, in particular on the medial femoral condyle with associated oedema through pressure.”***

Although the male was advised to use pain medication he wanted to find another way of dealing with the pain. From May 15 till June 30, 2012 the male did the exercises recommended by the physiotherapist. It felt good in the beginning but later the male had the feeling that it was better to stop.

### **COMRA-THERAPY TREATMENTS**

The male started coMra-Therapy treatments with the 980 nm Delta Laser Medical Terminal on April 27, 2012 according to the Traumatology 10 treatment in the coMra-Therapy User Guide, (5 points on the knee, 15 minutes in all, once daily) and the Universal 3 treatment, (10 points on major arteries, 10 minutes in total, every other day).

In June and July he continued Traumatology 10 twice daily and doubled the time per treatment to 30 minutes instead of 15 minutes. On June 10 he switched from the 980 nm to the 905 nm Delta Laser.

By the end of July most of the pain was gone, but he continued treatments in the hope of a full knee recovery. In August he went back to treating once a day, with regular treatment duration, but treated the medial meniscus area for somewhat longer, especially when there had been some relapse. He did not take the prescribed breaks (after 15 days of treatment 3 weeks of rest), but sometimes stopped for a week, according to own feelings and judgement.

In April 2013 he reported that he continued to follow the treatment protocol: 15 days of treatment, 21 days rest, 15 days of treatment.

In December 2013, one and a half years after the onset of the symptoms he treats himself only now and then when there is a minor relapse.

### **RESULTS**

In the first month of applying coMra-Therapy there was no improvement. There was severe pain during this period: the most severe level was between 5 and 7 (on a scale of 0-10). When sitting the pain was between 2 and 3. Walking or standing for any period of time was very painful. After treatment the pain was much less for some hours, but then it resumed.

At the beginning of June 2012, after 5 weeks treatment, the pain gradually started to decrease to level 1, with the most severe moments being at level 2 or 3. Longer walks were still a problem and there was a relapse mid July after a strenuous weekend.

At the end of July 2012 there was much improvement again: there was less pain, generally between 0 and 1, with the most severe pain points being between 1 and 2. He went for a long (6 km) walk without rest and had less pain (level of 1) afterwards than on previous shorter walks since the pain began in April. The joint was now much more flexible and the swelling/oedema was almost 100% gone.

On 6th September 2012 he had his first dance night since the knee pain began in April. He reported that he danced quite vigorously for at least one hour. There were no problems. The knee felt somewhat sensitive the following day, but not in any way that impeded movement or induced pain, and there was no swelling.

There were some minor relapses after carrying heavy items and or after long walks, but the pain did not go over 2 out of 10. On those days treatments were performed for several additional minutes than the protocol calls for and the pain stopped quickly.

During the course of this study the male filled out Western Ontario and McMaster Universities Arthritis Index (WOMAC) self-assessment questionnaires. WOMAC is used around the world to measure outcomes of surgeries, medication and other therapies in relation to knee osteoarthritis [1]. It surveys the individual's perception of his or her symptoms (5 questions), stiffness (2 questions), pain (9 questions), and function in daily living (17 questions) during the previous week. Changes can be seen in the *Figure 1*.

In December 2013 the male shared that the condition of his knee was at the same level as it was in November 2012 – February 2013, with minor relapses as in April 2013, but no worse than that.

In January 2013 a second MRI scan was done (*Figure 2*). There was one major difference reported in contrast to the scan of July 13, 2012. The radiologist reported:

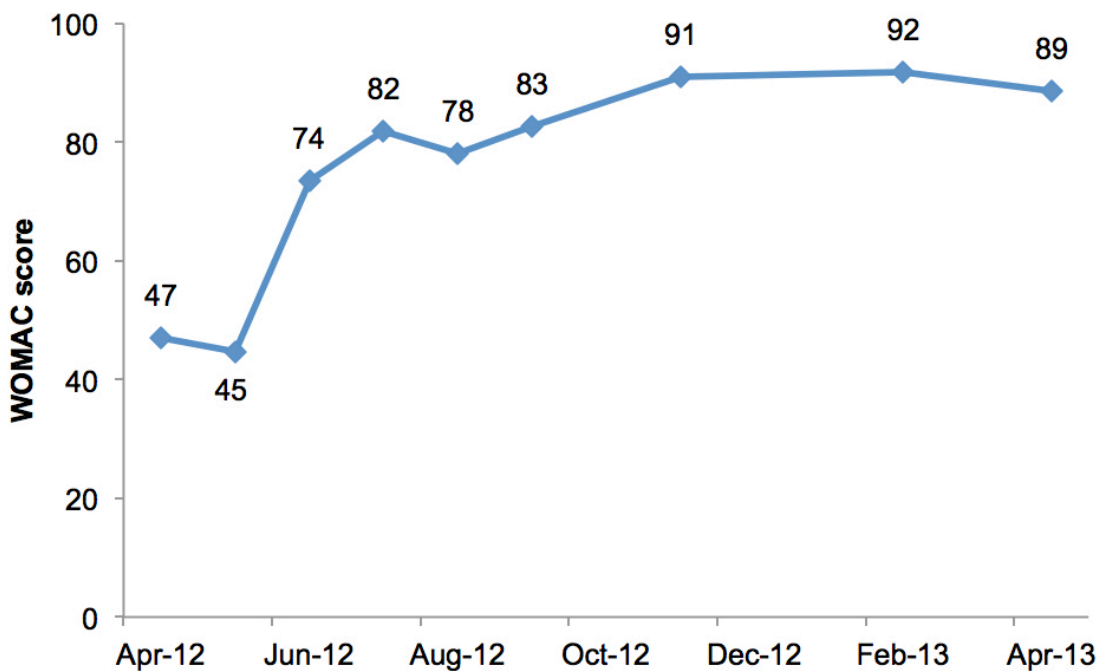
***“The adjacent, flat bone marrow oedema on the medial femoral condyle is clearly less, there are now only sparse subchondral oedema spots present.”***

In March 2013 this diagnosis was re-confirmed.

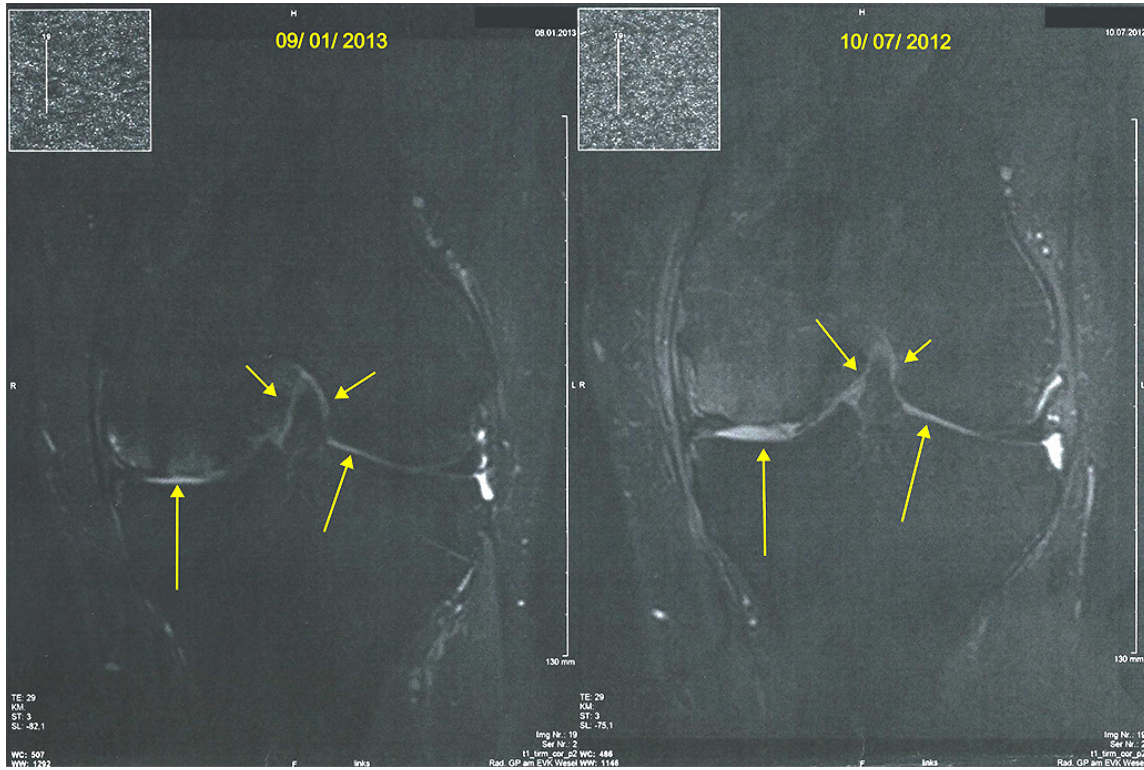
On April 2013 the case study male shared:

***“My knee feels fine: no pain, no oedema. I can do everything, but I do feel there is still something there in my knee.”***

**Figure 1.** Changes in the Western Ontario and McMaster Universities Arthritis Index during the case study (0 – worst possible, 100 – best possible).



**Figure 2.** MRI of the left knee before starting coMra-Therapy (right) and 8 months after coMra-Therapy was started (left). Yellow arrows point areas of oedema reduction.



***“I am very happy with the results: my knee feels up to 70 to 80% better compared to April 2012.”***

In December 2013 the male reported that there had been no major relapse and that he felt 80% better. He could do everything with one exception: running soon became painful. Bending his left knee went well till the last 1 or 2 cm.

## CONCLUSION

coMra-Therapy has successfully relieved pain due to knee arthrosis (osteoarthritis) and restored knee functionality and quality of life to this male.

## ACKNOWLEDGEMENTS

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## REFERENCES

1. Bellamy, N. 1995. **Outcome measurement in osteoarthritis clinical trials.** *The Journal of Rheumatology. Supplement* no. 43:49-51.