

## What's the Evidence?

# Massage for cerebral palsy

### Key findings

- One small randomised controlled trial reported some positive benefits of massage, but the results were inconsistent.
- A qualitative study that asked children with cerebral palsy about their experiences of massage suggests they enjoyed the relaxing nature of the massage and experienced benefits.
- The evidence is too limited to draw reliable conclusions about the effectiveness of this therapy.

#### What were we asked?

A sibling of a young person with cerebral palsy was interested to know whether massage is beneficial for children with cerebral palsy.

In this case, we were open to any outcomes that had been measured in studies that evaluated massage for cerebral palsy.

#### What did we do?

We searched academic databases to find evidence to answer the question. We searched NHS Evidence, Trip database, NICE guidelines and Pubmed to find published scientific studies. This search was carried out in November 2012.

#### What did we find?

Massage therapy can be carried out by a trained therapist, or by families. Several studies have investigated the clinical benefits of massage.

- We found two clinical trials which evaluated the effects of massage therapy; one was a randomised controlled trial (RCT)<sup>1</sup> and the other was a pre/post intervention (before and after) comparison study.<sup>2</sup>
- We also found a survey which investigated how commonly massage was used as a therapy for children with cerebral palsy in the USA, and the reasons for its use.<sup>3</sup> Of 104 families surveyed, 80% had used massage at least once and 51% were currently receiving massage. The main reasons for using massage were to help relax muscles (86%), to improve quality of life (71%), to improve sleep (23%) and to decrease pain (30%).
- In addition we found two qualitative studies that described parent's and children's experiences of the Training and Support Programme (TSP), which aims to teach massage skills to parents of children with cerebral palsy.<sup>4, 5</sup>

Trial 1: a randomised controlled trial.<sup>1</sup>

- The trial compared twice-weekly 30 minutes massage with reading, as a control activity, for a period of 12 weeks. Twenty children with cerebral palsy aged 2-3 years were involved; 10 received massage and 10 were randomised to the control group.
- The trial aimed to evaluate the effects of massage on spasticity, range of joint motion, motor function, and social interaction. The study compared measures of these for children before and after the intervention, but did not directly compare the intervention and control groups. Children were assessed on the first and last day of the trial.
- The results of the study were inconsistent. Children who received massage appeared to show reduced spasticity in the arms but not in the legs. The massage group had improved muscle tone in the arms, but no improvements in legs. The control group showed significant improvements in muscle tone in the legs but not their arms.
- The massage group also showed improved scores in fine and gross motor skills and cognition.

The results from this trial may appear encouraging, but the small number of children who took part means that reliable conclusions cannot be made based on these data alone. Furthermore, only measurements taken before and after the study were compared within each group; the 'massage' and 'control' groups were not directly compared. So it is not possible to say whether massage therapy is better at improving symptoms than the control activity (reading).

Trial 2: a 'pre/post' comparison study with a group of five adolescents with cerebral palsy aged 12 to 15 years.<sup>2</sup>

- In this type of research, all participants received massage, and their movement abilities were measured before and after the intervention, and then compared.
- The adolescents received twice weekly sessions of massage for 5 weeks.

This study did find an improvement in movement ability using a 'gold standard' measure called the GMFM-66.<sup>6</sup> But, since the sample is so small these results cannot be reliably applied to other young people with cerebral palsy.

Qualitative evaluation of TSP: children's perspectives.<sup>4</sup>

- The children and adolescents enjoyed the relaxing effect of the massage.
- They reported decreased nausea and pain.
- They felt the relaxing effect had positive effects on their mobility and writing.
- Some children felt uncomfortable removing their clothes in front of the therapist.
- Others found it uncomfortable to sit or lie still to receive the massage.
- In all cases, the therapist was able to adapt the massage to suit the individual needs of each child.

Qualitative evaluation of TSP: parent's perspectives.<sup>5</sup>

- Although parents felt that the massage was helpful, this is not evidence to say that the intervention is clinically effective.

### Our recommendations:

At the moment, there is not good quality evidence to say whether massage is an 'effective' therapy for cerebral palsy.

However, massage is of interest to families, and qualitative studies suggest that children often enjoy massage and perceive that they benefit from it.

Do you have any feedback on this summary?  
Please email us at [pencru@pcmd.ac.uk](mailto:pencru@pcmd.ac.uk).

### References

1. Hernandez-Reif M, Field T, Largie S, Diego M, Manigat N, Seoanes J, et al. Cerebral palsy symptoms in children decreased following massage therapy. . *Early Child Development and Care*. 2005;175(5):445-56.
2. Macgregor R, Campbell R, Gladden MH, Tennant N, Young D. Effects of massage on the mechanical behaviour of muscles in adolescents with spastic diplegia: a pilot study. *Dev Med Child Neurol*. 2007 Mar;49(3):187-91.
3. Glew GM, Fan MY, Hagland S, Bjornson K, Beider S, McLaughlin JF. Survey of the use of massage for children with cerebral palsy. *Int J Ther Massage Bodywork*. 2010;3(4):10-5.
4. Powell L, Cheshire A, Swaby L. Children's experiences of their participation in a training and support programme involving massage. *Complement Ther Clin Pract*. 2010 Feb;16(1):47-51.
5. Barlow J, Powell L, Cheshire A. The training and support programme (involving basic massage) for parents of children with cerebral palsy: an implementation study. *Journal of Bodywork and Movement Therapies*. 2007;11(1):44-53.
6. CanChild. What is the GMFM? [13th January 2013]; Available from: <http://motorgrowth.canchild.ca/en/gmfm/overview.asp>.