

What's the Evidence?

Equine-assisted therapy for children with disabilities?

Key Findings

- There is limited evidence that equine-assisted therapies may produce short-term improvements in mobility, postural control and balance for some children with cerebral palsy.
- There is little evidence that equine-assisted therapy is effective for other conditions such as ADHD and ASD.
- More rigorous research is needed to clarify which children are likely to benefit from equine-assisted therapy, what 'benefits' are expected, and the optimum frequency and duration of therapy.
- However, horse riding is an activity that many children enjoy and helps to keep them fit.

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What were we asked?

Two questions were received about equine-assisted therapies. One asked about the general evidence base for this type of therapy for children with disabilities, and the other question asked more specifically about the effectiveness of equine-assisted therapy for children with Attention Deficit Hyperactivity Disorder (ADHD).

What did we do?

We formulated the questions into a PICO format. Is equine-assisted therapy effective to reduce symptoms and improve functioning for children with neurodisability, particularly children with ADHD?

We searched academic databases and contacted the Riding for the Disabled Association (RDA). We asked parents from our Family Faculty to review and comment on the information.

What did we find?

What is equine-assisted therapy?

Equine-assisted therapy is an umbrella term which covers two different types of therapy that involve horses and donkeys: hippotherapy (*hippo* from the Greek for horse) and therapeutic riding. Both are thought to have benefits for children with a variety of disabilities and conditions.

Equine-assisted therapies claim to enhance muscle tone, balance and co-ordination through the child's responses to the horse's shape and movement. The riding position astride the horse stretches hips and legs. Warmth from the horse may reduce pain associated with stretching. Interacting with the animals is also thought to have social and psychological affects, including reducing anxiety and encouraging communication.

- Hippotherapy is delivered by qualified therapists and it is the therapist who controls the horse.¹

- Therapeutic riding is delivered by accredited instructors and resembles recreational lessons.

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Sessions are typically half an hour a week over a twelve-week course. Funding is variable, some children can use personal budgets, while many RDA groups subsidise sessions.³

Is there evidence of positive measurable effects?

- In line with the idea that these therapies target the neuromuscular system, research has largely focused on the physical effects for children with cerebral palsy.
- Since 2010, three systematic reviews of research studies have been published. Not all of the studies reviewed demonstrated significant changes, but overall, the reviews suggest that equine-assisted therapies can have positive short-term effects on gross motor function, by improving postural control and balance for children with cerebral palsy.^{4, 5, 6}
- Although this evidence is promising, the studies included within the reviews are not robust. Most trials involved small numbers of children whose responses might not have been typical. They examined children before and after therapy but did not isolate equine-assisted therapy from other treatments that might have affected the outcome measured. This makes it difficult to conclude that any positive effects were caused by the equine-assisted therapies alone. The studies also did not show whether any impact lasted in the long term.
- Many of the studies which showed improvement included children with less limitations.⁴ This could suggest children with fewer limitations may be more likely to improve, but to clarify which children are most likely to benefit, future studies need to use standardised language to describe movement ability, such as the Gross Motor Function Classification System.
- The evidence in relation to children with cerebral palsy has grown more robust with the use of randomised controlled trials, but evidence in relation to equine-assisted therapies for other conditions is weak since it is largely in the form of single case reports and observational studies.
- Two reviews have looked at the emotional and psychological affects of equine-assisted therapies. They found that there is little UK-based research, but there is some evidence that they can promote positive well-being and potentially reduce negative behaviours.^{7, 8}
- For children with Autistic Spectrum Disorder (ASD), one systematic review of animal-assisted interventions (O'Haire, 2012) suggested there is some evidence of increased social interaction and communication. However, the studies were often restricted to single subjects, and only one used a control group to compare results.⁹
- For children with ADHD, only one 'pilot study' carried out in Norway could be found. This study suggested that therapeutic riding can have positive affects on behaviour, with parents reporting significant changes in hyperactivity and inattention. However, the small sample size of 5 children aged 10-11 years makes it difficult to generalise from this study to other children.¹⁰
- Although there is a lot of research and other literature on the potential of equine-assisted therapies, the quality of evidence for its effectiveness is generally weak. The therapies considered in the studies to date all have different durations and frequencies and their outcomes are measured in different ways, so that results cannot be compared, nor a persuasive evidence-base established.
- The Riding for Disabled Association (RDA) has recently introduced a standardised assessment tool (therapy tracker) to measure change. Initial results show the most reported outcome was the level of enjoyment - the fun the rider has.
- This is supported by feedback from our Family Faculty which highlighted the motivation, the

desire to ride and riding can provide. This suggests research needs to take more of a holistic approach, taking into account the importance of fun, fitness, friends, family, function and future (the F-words of childhood disability – click [here](#) to see video).

What do we think?

- The evidence regarding the effectiveness of equine-assisted therapy to reduce symptoms and improve functioning is weak.
- Clarity is needed over the benefits to be expected from therapy with horses.
- Standardised outcome measures and clearly described therapy programmes need to be used so that the results can be combined. This will help to evaluate the effectiveness of equine assisted therapies for children with neurodisability generally, or with specific conditions.
- Even if riding is not necessarily an effective ‘therapy’, riding may be a fun activity that many children enjoy and may improve their fitness.

We would like to hear your feedback on this summary, please [contact us](#) if you have any comments or questions.

References

1. Association of Chartered Physiotherapists in Therapeutic Riding (ACPTR) <http://acptr.csp.org.uk/>
2. For example, RDA Coaching Qualifications which are reviewed by UKCC (UK Coaching Committee) <https://www.sportscoachuk.org/>
3. Direct correspondence received April 2014 from Riding for the Disabled Organisation
4. Tseng, SH., Chen, HC & Tom, KW. (2013). Systematic Review and Meta-analysis of the Effect of Equine Assisted Activities on Gross Motor Outcome in Children with Cerebral Palsy. *Disability & Rehabilitation* 35 (2) 89 – 99.
5. Whalen, CN & Case-Smith, J. (2012). Therapeutic Effects of Horseback Riding Therapy on Gross Motor Function in Children with Cerebral Palsy: A Systematic Review. *Physical & Occupational Therapy in Pediatrics* 32 (3) 229 – 242.
6. Zadnikar, M & Kastrin, AJ. (2011). Effects of Hippotherapy & Therapeutic Horseback Riding on Postural Control or Balance in Children with Cerebral Palsy: A Meta-analysis. *Developmental Medicine & Child Neurology* 53, 684 – 691.

- Equine-assisted therapy will not suit everyone, so a consultation with a paediatrician is advised, to consider potential benefits and risks, as well as ongoing review.

Signposts to other information

Riding for the Disabled Association has 500 groups across UK who organise riding activities and both *Scope* and *Research Autism* have further information:

- www.rda.org.uk
- <http://www.scope.org.uk/support/families/therapies/hippo>
- http://researchautism.net/autism_treatments_therapies_interventions.ikml

7. Selby, A & Smith-Osborne, A. (2013). A Systematic Review of Effectiveness of Complementary and Adjunct Therapies and Interventions Involving Equines. *Health Psychology* 32 (4) 418 – 432.
8. Cantin, A & Marshall-Lucette, S. (2011). Examining the Literature on the Efficacy of Equine Assisted Therapy for People with Mental Health & Behavioural Disorders. *Mental Health & Learning Disabilities Research and Practice* 8 (1) 51 – 61.
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10. Cuypers, K, De Ridder, K & Strandheim, A. (2011). The Effect of Therapeutic Horseback Riding on 5 Children with Attention Deficit Hyperactivity Disorder: A Pilot Study. *J Altern Complement Med* 17 (10) 901 - 8.

This information is produced by PenCRU researchers and reviewed by external experts. The views expressed are those of PenCRU at the University of Exeter Medical School and do not represent the views of the Cerebra charity, or any other parties mentioned. We strongly recommend seeking medical advice before undertaking any treatments/therapies.