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This is a brief overview of information about animal-assisted interventions, taken from the Autism CRC report, Interventions for children on the autism spectrum: A synthesis of research evidence (Autism Interventions Evidence Report).

There are seven other category overviews available designed to help people learn about different interventions and their research evidence. To understand the information in its full context, we encourage you to access the full report .

Why are animal-assisted interventions supposed to support children's development?

Animal-assisted interventions involve interactions with animals as the primary means for supporting skill development.

These interventions are based on the premise that human-animal interactions may be motivating for children on the autism spectrum, and provide a calming and non-judgemental environment within which social abilities and general wellbeing may improve (notes 1 - 3).

While physiological benefits have also been proposed for certain animal-assisted interventions (notes 3 and 4), the primary focus has typically been on the promotion of psychosocial health and wellbeing.

How are these interventions used in clinical practice?

The most prominent use of animal-assisted interventions for children on the autism spectrum has been through the use of assistance dogs (also called, canine assisted therapy), therapeutic horse riding (also called, equine-assisted therapy), and dolphin therapy (note 2).

In some cases, intervention is delivered via the animal (eg. therapeutic horse riding), whereas in other applications, animals form part of enrichment activities or education programs.

Animal-assisted interventions are described using a#5 variety of terminology and there is little standardisation in relation to intervention characteristics including the person delivering the intervention (eg. therapist, animal

handler) and consistency of procedures (note 5).

What are the principles that underpin the use of animal-assisted interventions?

Because of the wide variety of uses of animal-assisted intervention, there is no universal set of principles that are shared across all practices.

In Australia, the Delta Institute which acts as an accrediting body for dog trainers, has published Best Practice Guidelines (note 6) that outline member expectations including, but not limited to:

- Appropriate training qualifications relating to the use of animals in therapy.
- Provision of appropriate and ethical services.
- The need for continuing professional development.

Who delivers these interventions?

Children on the autism spectrum often have needs across multiple domains of learning, and physical and mental health.

Accordingly, children and families may benefit from the expertise of a range of clinical practitioners spanning health, education and medical disciplines.

For all intervention categories, it is essential that clinical practitioners have acquired appropriate qualifications, are regulated (eg. by a professional or government body), and deliver interventions that are within their scope of practice. A detailed explanation is provided in the full report.

What is the evidence for the effect of animal-assisted interventions on child and family outcomes?

Below is a summary of the evidence for the effect of animal-assisted interventions on child and family outcomes, taken from systematic reviews published since 2010.

This means that a range of relevant individual studies have been considered, and thus reflects the best available evidence at this point in time.

Listed first are findings from systematic reviews that considered a mixture of animal-assisted interventions.

Following that are findings relating to specific animal-assisted intervention practices.

Summary of evidence tables

- Each cell represents evidence for the intervention category or practice (horizontal rows) on various child and family outcomes (vertical columns).
- The effect of these interventions on a range of child and family outcomes is summarised as positive, null, or mixed.

    - **+** means that all available evidence indicated a positive effect of the intervention on a given child or family outcome.
    - **?** means that there was a mixture of positive and null effects reported for the intervention on a given child or family outcome.
    - **0** means that all available evidence indicated a null effect of the intervention on a given child or family outcome.
- H / M / L indicates the methodological quality of the evidence that contributed to the overall intervention effect for a given child or family outcome. The quality of evidence on which these findings are based is summarised as high, moderate, or low. These quality ratings are relative to those that met the minimum standards to be included in the report. Where there is more than one quality rating, it means more than one systematic review is represented.
    - **H** indicates evidence from a high quality review
    - **M** indicates evidence from a moderate quality review
    - **L** indicates evidence from a low quality review
- Where a cell is empty, it means there was no evidence available from the systematic reviews included in the report.

Please refer to the full report for a detailed explanation of the process used to collect, summarise, and synthesise the evidence presented here.

Core autism characteristics

Interventions	No. of systemic reviews	Overall autistic characteristics	Social-communication	Restricted and repetitive interests and behaviours	Sensory behaviours
Systematic reviews of assorted animal-assisted interventions	2				
Canine-assisted intervention	2		? LM		
Equine assisted therapy	3		0 L		+ L

Related skills and development

Interventions	No. of systemic reviews	Communication	Expressive language	Receptive language	Cognition	Motor	Social-emotional/ challenging behaviour	Play	Adaptive behaviour	General outcomes
Systematic reviews of assorted animal-assisted interventions	2									0 LL

Interventions	No. of systemic reviews	Communication	Expressive language	Receptive language	Cognition	Motor	Social-emotional/ challenging behaviour	Play	Adaptive behaviour	General outcomes
Canine-assisted intervention	2									
Equine assisted therapy	3	0 L			0 L	? L	? L		0 L	? LM

Education and participation

Interventions	No. of systemic reviews	School/ learning readiness	Academic skills	Quality of life		Community participation
Systematic reviews of assorted animal-assisted interventions	2					
Canine-assisted intervention	2					
Equine assisted therapy	3			? L	? L	

Family wellbeing

Interventions	No. of systemic reviews	Caregiver communication and interaction strategies	Caregiver social emotional wellbeing	Caregiver satisfaction	Caregiver financial wellbeing	Child satisfaction
Systematic reviews of assorted animal-assisted interventions	2					
Canine-assisted intervention	2					
Equine assisted therapy	3					

Practices included in systematic reviews of assorted animal-assisted interventions.

Full reference of report

Whitehouse, A., Varcin, K., Waddington, H., Sulek, R., Bent, C., Ashburner, J., Eapen, V., Goodall, E., Hudry, K., Roberts, J., Silove, N., Trembath, D. Interventions for children on the autism spectrum: A synthesis of research evidence. Autism CRC, Brisbane, 2020

Intervention category overviews

- Behavioural interventions
- Developmental interventions
- Naturalistic developmental behavioural interventions
- Sensory-based interventions
- Technology-based interventions
- Animal-assisted interventions
- Cognitive behaviour therapy
- Treatment and Education of Autistic and related Communication-handicapped Children (TEACCH) interventions

Notes

1. Hill, J., Ziviani, J., Driscoll, C., & Cawdell-Smith, J. (2019). Canine-assisted occupational therapy for children on the autism spectrum: Challenges in practice. *British Journal of Occupational Therapy, 83*(4), 215-219. doi:10.1177/0308022619858851
2. O'Haire, M. E. (2013). Animal-assisted intervention for autism spectrum disorder: a systematic literature review. *Journal of Autism and Developmental Disorders, 43*(7), 1606-1622. doi:10.1007/s10803-012-1707-5
3. Sandbank, M., Bottema-Beutel, K., Crowley, S., Cassidy, M., Dunham, K., Feldman, J. I., Woynaroski, T. G. (2020a). Project AIM: Autism intervention meta-analysis for studies of young children. *Psychological Bulletin, 146*(1), 1-29.
4. Trzmiel, T., Purandare, B., Michalak, M., Zasadzka, E., & Pawlaczyk, M. (2019). Equine assisted activities and therapies in children with autism spectrum disorder: A systematic review and a meta-analysis. *Complementary Therapies in Medicine*, 42, 104-113. doi:10.1016/j.ctim.2018.11.004
5. O'Haire, M. E. (2017). Research on animal-assisted intervention and autism spectrum disorder, 2012–2015. *Applied Developmental Science*, 21(3), 200-216. doi:10.1080/10888691.2016.1243988 Delta Institute. (2016).
6. Delta Institute Best Practice Guidelines. https://9ae36e61-4b22-4230-bb95-f39083f7936e.filesusr.com/ugd/78eed2_40866d1ffc634bb997c914f82d4b4b14.pdf