

## Treatment Intervention Advisory Committee Review and Determination

**Date:** January 30, 2015

**To:** DHS/DLTC

**From:** Wisconsin Department of Health Services Autism and other Developmental Disabilities  
Treatment Intervention Advisory Committee: Lana Collet-Klingenberg, Ph.D. (chairperson) *ACK*

**RE:** Determination of aromatherapy as a proven and effective treatment for individuals with autism spectrum disorder and/or other developmental disabilities

This is an initial review

This is a re-review. The initial review was Date of initial review

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### Section One: Overview and Determination

Please find below a statement of our determination as to whether or not the committee views aromatherapy as a proven and effective treatment for children with autism spectrum disorder and/or other developmental disabilities. In subsequent sections you will find documentation of our review process including a description of the proposed treatment, a synopsis of review findings, the treatment review evidence checklist, and a listing of the literature considered. In reviewing treatments presented to us by DHS/DLTC, we implement a review process that carefully and fully considers all available information regarding a proposed treatment. Our determination is limited to a statement regarding how established a practice is in regard to quality research. We do not make funding decisions.

#### Description of proposed treatment

Aromatherapy is defined by the National Association for Holistic Aromatherapy website ([www.naha.org](http://www.naha.org)): "Aromatherapy, also referred to as Essential Oil therapy, can be defined as the art and science of utilizing naturally extracted aromatic essences from plants to balance, harmonize and promote the health of body, mind and spirit. It seeks to unify physiological, psychological and spiritual processes to enhance an individual's innate healing process. It was the French perfumer and chemist, Rene-Maurice Gattefosse, who coined the term "aromatherapie" in 1937 with his publication of a book by that name. His book "Gattefosse's Aromatherapy" contains early clinical findings for utilizing essential oils for a range of physiological ailments. It seems vital to understand what Gattefosse's intention for coining the word was, as he clearly meant to distinguish the medicinal application of essential oils from their perfumery applications. So we can interpret his coining of the word "Aromatherapie" to mean the therapeutic application or the medicinal use of aromatic substances (essential oils) for holistic healing. As the practice of aromatherapy has progressed, over the years, it has adopted a more holistic approach encompassing the whole body, mind and spirit (energy)."

#### Synopsis of review

In the case of aromatherapy, please refer to the attached reference listing that details the reviewed research. The committee's conclusions regarding aromatherapy include a lack of evaluation with children with autism. The only studies mentioning aromatherapy for autism, found by this committee, included one report of parents using aromatherapy for their autistic children, with no evaluation of its

effectiveness (Polimeni, Richdale, & Francis, 2005), and another review on non-traditional approaches to sleep problems, which concluded that the one aromatherapy study reviewed had no effect on sleep (McLay & France, 2014). One study was found examining odors as being processed/rated differently in individuals with autism (Hrdlicka et al., 2011) and another study examining odors as reinforcers/rewards for desired behaviors (Wilder et al., 2008). Further, in their review of complementary and alternative therapies for ASD, Levy and Hyman (2008) classify aromatherapy as a "Grade C: Case reports and Theories only." No scientific, empirical studies to date that evaluated the effects of aromatherapy as an intervention for individuals with autism were found.

In sum, it is the decision of the committee that there exist no studies in which the primary treatment for autism was aromatherapy, and no authoritative bodies have recognized the treatment as having emerging evidence. However, there is no evidence that the treatment may be harmful, unless the essential oils are consumed or used in inappropriately large amounts. Therefore, aromatherapy is classified as Level 4 - Insufficient Evidence (Experimental Treatment).

## Section Two: Rationale for Focus on Research Specific to Comprehensive Treatment Packages (CTP) or Models

In the professional literature, there are two classifications of interventions for individuals with Autism Spectrum Disorder (National Research Council, 2001; Odom et al., 2003; Rogers & Vismara, 2008):

- (a) **Focused intervention techniques** are individual practices or strategies (such as positive reinforcement) designed to produce a specific behavioral or developmental outcome, and
- (b) **Comprehensive treatment models** are “packages” or programs that consist of a set of practices or multiple techniques designed to achieve a broader learning or developmental impact.

To determine whether a treatment package is proven and effective, the Treatment Intervention Advisory Committee (TIAC) will adopt the following perspective as recommended by Odom et al. (2010):

The individual, focused intervention techniques that make up a comprehensive treatment model may be evidence-based. The research supporting the effectiveness of separate, individual components, however, does *not* constitute an evaluation of the comprehensive treatment model or “package.” The TIAC will consider and review only research that has evaluated the efficacy of implementing the comprehensive treatment *as a package*. Such packages are most often identifiable in the literature by a consistently used name or label.

National Research Council. (2001). *Educating children with autism*. Washington, DC: National Academy Press.

Odom, S. L., Brown, W. H., Frey, T., Karusu, N., Smith-Carter, L., & Strain, P. (2003) Evidence-based practices for young children with autism: Evidence from single-subject research design. *Focus on Autism and Other Developmental Disabilities, 18*, 176-181.

Odom, S. L., Boyd, B. A., Hall, L. J., & Hume, K. (2010). Evaluation of comprehensive treatment models for individuals with Autism Spectrum Disorders. *Journal of Autism and Developmental Disorders, 40*, 425-436.

Rogers, S., & Vismara, L. (2008). Evidence-based comprehensive treatments for early autism. *Journal of Clinical Child and Adolescent Psychology, 37*, 8-38.

### Section Three: DLTC-TIAC Treatment Review Evidence Checklist

Name of Treatment: Insert therapy name

#### Level 1- Well Established or Strong Evidence (DHS 107 - Proven & Effective Treatment)

- Other authoritative bodies that have conducted extensive literature reviews of related treatments (e.g., National Standards Project, National Professional Development Center) have approved of or rated the treatment package as having a strong evidence base; authorities are in agreement about the level of evidence.
- There exist ample high quality studies that demonstrate experimental control and favorable outcomes of treatment package.
  - Minimum of two group studies or five single subject studies or a combination of the two.
  - Studies were conducted across at least two independent research groups.
  - Studies were published in peer reviewed journals.
- There is a published procedures manual for the treatment, or treatment implementation is clearly defined (i.e., replicable) within the studies.
- Participants (i.e., N) are clearly identified as individuals with autism spectrum disorders or developmental disabilities.

*Notes:* At this level, include ages of participants and disabilities identified in body of research

#### Level 2 – Established or Moderate Evidence (DHS 107 - Proven & Effective Treatment)

- Other authoritative bodies that have conducted extensive literature reviews of related treatments (e.g., National Standards Project, NPDC) have approved of or rated the treatment package as having at least a minimal evidence base; authorities may not be in agreement about the level of evidence.
- There exist at least two high quality studies that demonstrate experimental control and favorable outcomes of treatment package.
  - Minimum of one group study or two single subject studies or a combination of the two.
  - Studies were conducted by someone other than the creator/provider of the treatment.
  - Studies were published in peer reviewed journals.
- Participants (i.e., N) are clearly identified as individuals with autism spectrum disorders or developmental disabilities.

*Notes:* At this level, include ages of participants and disabilities identified in body of research

Level 3 – Emerging Evidence (DHS 107 – Promising as a Proven & Effective Treatment)

- Other authoritative bodies that have conducted extensive literature reviews of related treatments (e.g., National Standards Project, NPDC) have recognized the treatment package as having an emerging evidence base; authorities may not be in agreement about the level of evidence.
- There exists at least one high quality study that demonstrates experimental control and favorable outcomes of treatment package.
  - May be one group study or single subject study.
  - Study was conducted by someone other than the creator/provider of the treatment.
  - Study was published in peer reviewed journal.
- Participants (i.e., N) are clearly identified as individuals with autism spectrum disorders or developmental disabilities.

*Notes:* At this level, include ages of participants and disabilities identified in body of research

Level 4 – Insufficient Evidence (Experimental Treatment)

- Other authoritative bodies that have conducted extensive literature reviews of related treatments (e.g., National Standards Project, NPDC) have not recognized the treatment package as having an emerging evidence base; authorities are in agreement about the level of evidence.
- There is not at least one high quality study that demonstrates experimental control and favorable outcomes of treatment package.
  - Study was conducted by the creator/provider of the treatment.
  - Study was not published in a peer reviewed journal.
- Participants (i.e., N) are not clearly identified as individuals with autism spectrum disorders or developmental disabilities.

*Notes:*

Level 5 – Untested (Experimental Treatment) &/or Potentially Harmful

- Other authoritative bodies that have conducted extensive literature reviews of related treatments (e.g., National Standards Project, NPDC) have not recognized the treatment package as having an emerging evidence base; authorities are in agreement about the level of evidence.
- There are no published studies supporting the proposed treatment package.
- There exists evidence that the treatment package is potentially harmful.**
  - Authoritative bodies have expressed concern regarding safety/outcomes.
  - Professional bodies (i.e., organizations or certifying bodies) have created statements regarding safety/outcomes.

*Notes:* At this level, please specify if the treatment is reported to be potentially harmful, providing documentation

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Date: January 30, 2015

Committee Members Completing Initial Review of Research Base: Jennifer Asmus, Amy Van Hecke

Committee Decision on Level of Evidence to Suggest the Proposed Treatment is Proven and Effective:  
Level 4 - Insufficient Evidence (Experimental Treatment)

**References Supporting Identification of Evidence Levels:**

- Chambless, D.L., Hollon, S.D. (1998). Defining empirically supported therapies. *Journal of Consulting and Clinical Psychology*, 66(1) 7-18.
- Chorpita, B.F. (2003). The frontier of evidence---based practice. In A.E. Kazdin & J.R. Weisz (Eds.). *Evidence-based psychotherapies for children and adolescents* (pp. 42---59). New York: The Guilford Press.
- Odom, S. L., Collet-Klingenberg, L., Rogers, S. J., & Hatton, D. (2010). Evidence-based practices in interventions for children and youth with autism spectrum disorders. *Preventing School Failure*, 54(4), 275-282.

## Section Four: Literature Review

- Hrdlicka, M., Vodicka, J., Havlovicova, M., Urbanek, T., Blatny, M., & Dudova, I. (2011). Brief report: Significant differences in perceived odor pleasantness found in children with ASD. *Journal of Autism and Developmental Disorders*, *41*(4), 524-527
- Levy, S. E., & Hyman, S. L. (2008). Complementary and alternative medicine treatments for children with autism spectrum disorders. *Child and Adolescent Psychiatric Clinics of North America*, *17*(4), 803-820.
- McLay, K. & France, K. (2014). Empirical research evaluating non-traditional approaches to managing sleep problems in children with autism. *Developmental Neurorehabilitation*, doi: 10.3109/17518423.2014.904452
- National Association for Holistic Aromatherapy (2014). <http://www.naha.org>, accessed 1/9/2015.
- Polimeni, M., Richdale, A., & Francis, A. (2005). A survey of sleep problems in autism, Asperger, and typically developing children. *Journal of Intellectual Disability Research*, *49*, 260-268.
- Wilder, D. A., Schadler, J., Higbee, T. S., Haymes, L. K., Bajagic, V., & Register, M. (2008). Identification of olfactory stimuli as reinforcers in individuals with autism: A preliminary investigation. *Behavioral Interventions*, *23*(2), 97-103.