What characterises improvisational MT for ASD?

Development of a treatment guide describing an international „consensus model“

Monika Geretsegger, John Carpente, Ulla Holck, Cochavit Elefant, Jinah Kim, Christian Gold
GERÜSTE SIND HYPOTHESEN, 
DIE MAN VOR DEM GEBÄUDE AUFFÜHRT 
UND DIE MAN ABTRÄGT, 
WENN DAS GEBÄUDE FERTIG IST. 
SIE SIND DEM ARBEITER UNENTBEHRLICH, 
nUR MUSS ER DAS GERÜSTE 
NICHT FÜR DAS GEBÄUDE ANSEHEN. 

JOHANN WOLFGANG VON GOETHE
HYPOTHESES ARE LIKE THE SCAFFOLDING ERECTED IN FRONT OF A BUILDING, TO BE DISMANTLED WHEN THE BUILDING IS COMPLETED. TO THE WORKER THE SCAFFOLDING IS INDISPENSABLE, BUT HE MUST NOT CONFUSE IT WITH THE BUILDING ITSELF.

Johann Wolfgang von Goethe, *Maximen und Reflexionen*, no. 554, HA, XII:432
On using scaffoldings...

...within improvisational music therapy for children with ASD
(intentionally supporting the flow of interaction)

...within one’s way of going about one’s clinical practice
(rigorous treatment manuals vs. flexible process orientation)

...within a multi-centre trial
(standard operating procedures & local specifics)
Randomised controlled trial of improvisational music therapy’s effectiveness for children with autism spectrum disorders (TIME-A): study protocol

Monika Geretsegger¹, ², Ulla Holck¹ and Christian Gold³*

Abstract

Background: Previous research has suggested that music therapy may facilitate skills in areas typically affected by autism spectrum disorders such as social interaction and communication. However, generalisability of previous findings has been restricted, as studies were limited in either methodological accuracy or the clinical relevance of their approach. The aim of this study is to determine effects of improvisational music therapy on social communication skills of children with autism spectrum disorders. An additional aim of the study is to examine if variation in dose of treatment (i.e., number of music therapy sessions per week) affects outcome of therapy, and to determine cost-effectiveness.

Methods/Design: Children aged between 4.0 and 6.11 years who are diagnosed with autism spectrum disorder will be randomly assigned to one of three conditions. Parents of all participants will receive three sessions of parent counselling (at 0, 2, and 5 months). In addition, children randomised to the two intervention groups will be offered individual, improvisational music therapy over a period of five months, either one session (low-intensity) or three sessions (high-intensity) per week. Generalised effects of music therapy will be measured using standardised scales completed by blinded assessors (Autism Diagnostic Observation Schedule, ADOS) and parents (Social Responsiveness Scale, SRS) before and 2, 5, and 12 months after randomisation. Cost effectiveness will be calculated as man years. A group sequential design with first interim look at N = 235 will ensure both power and efficiency.

Discussion: Responding to the need for more rigorously designed trials examining the effectiveness of music therapy in autism spectrum disorders, this pragmatic trial sets out to generate findings that will be well generalisable to clinical practice. Addressing the issue of dose variation, this study’s results will also provide information on the relevance of session frequency for therapy outcome.

Trial Registration: Current Controlled Trials ISRCTN78923965.
The music therapy approach applied in this study is based on the ideas and principles of improvisational music therapy [Bruscia, 1987; Wigram, 2004], findings from previous music therapy research [Edgerton, 1994; Gattino, Riesgo, Longo, Leite, & Faccini, 2011; Kim, 2006; Kim, Wigram, & Gold, 2008, 2009], and developmental psychology [Stern, 2010]. The music played or sung by the therapist is generally attuned to the child’s (musical or other) behaviour and expression and includes various improvisational techniques to engage the child and establish contact with the child. To this end, “musical” features of the child’s expression (pulse, rhythmic, dynamic or melodic patterns, timbre etc.) may be mirrored, reinforced, or complemented, thus allowing for moments of synchronisation between child and therapist and giving the child’s expressions a pragmatic meaning within the context. To allow elicitation of specific social communicative behaviours, the therapist may also gently provoke the child e.g. by violating expectations or jointly developed patterns. While engaging in joint musical activities within a shared history of interaction, the child is offered opportunities to develop and enhance skills such as affect sharing, joint attention, imitation, reciprocity, and turn-taking, all of which are associated with later development in language and social competency [Mundy, Sigman, & Kasari, 1990; Sigman et al., 1999].
towards a shared understanding of **improvisational MT:**

**Development of a treatment guide for IMT with children with ASD**

*Literature*
- Bruscia, 1987; Carpente, 2011; Holck, 2004; Kim, 2006; Kim, Wigram, & Gold, 2009; Oldfield, 2006; Schumacher & Calvet, 2008; Thompson, 2012a, 2012b; Wigram, 2002; Wigram & Elefant, 2009

*Previous treatment manuals*
- Aldred, Green, & Adams, 2010; Green et al., 2010; Kasari, Freeman, & Paparella, 2006; Kim, 2006
towards a „consensus model“ of improvisational MT:

development of a treatment guide for IMT with children with ASD

SURVEY among „IMT/ASD experts“ in 11 countries worldwide

workshops/discussions with clinicians in Austria, Italy, Korea
TREATMENT GUIDE
for improvisational music therapy (IMT)
for children with autism spectrum disorder (ASD)

version 2 July 2005

Monika Geretsegger, John Carpent, Ulla Holck, Christine Elefant, Josch Kim, Christian Gold

The following basic principles and specifications are provided as guidelines for carrying out IMT sessions in ASD. They are suggested to be applied flexibly according to the circumstances of the

(a) Setting:

IMT within ASD may be defined as a child-centered approach that develops

(b) Musical media:

IMT uses music-related experiences that occur and develop within the therapeutic relationship for

(c) Goals:

One of the two definitions of IMT as defined in DSM-5, qualitative impairment in social

(d) Basic principles for the treatment:

This guide has been developed based on main principles and includes

- The standard session time typically varies between 30 and 60 minutes. In some cases it will be necessary to
- The range of therapy materials (instruments and toys) and the physical environment should remain

(a) Setting:

- The setting of IMT for children with ASD as described in this treatment guide is offered in an individual setting. If the
- The 'dosage' of treatment may vary between one and three sessions a week

(b) Musical media:

- In IMT, all aspects of musical expression (be it instrumental or vocal) are used in order to interact with
- Pre-composed songs or recordings of music may also be used, for example in order to establish a shared

(c) Goals:

- One of the two definitions of IMT as defined in DSM-5, qualitative impairment in social
- This can include developmentally relevant therapy targets such as facilitating joint attention, social interaction, and

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<thead>
<tr>
<th>Psychodynamic therapy</th>
<th>Behavioral therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unique and essential</strong></td>
<td><strong>Essential but not unique</strong></td>
</tr>
<tr>
<td>1. Focus on unconscious determinants of behavior</td>
<td>1. Assigning homework</td>
</tr>
<tr>
<td>2. Focus on internalized object relations as historical causes of current problems</td>
<td>2. Practicing assertion in the session</td>
</tr>
<tr>
<td>3. Focus on defense mechanisms used to ward off pain of early trauma</td>
<td>3. Forming a contingency contract</td>
</tr>
<tr>
<td>4. Interpretation of resistance</td>
<td></td>
</tr>
<tr>
<td><strong>Essential but not unique</strong></td>
<td><strong>Acceptable but not necessary</strong></td>
</tr>
<tr>
<td>1. Establish a therapeutic alliance</td>
<td>1. Paraphrasing</td>
</tr>
<tr>
<td>2. Setting treatment goals</td>
<td>2. Self-disclosure</td>
</tr>
<tr>
<td>3. Empathic listening</td>
<td>3. Exploring dreams</td>
</tr>
<tr>
<td>4. Planning for termination</td>
<td>4. Providing treatment rationale</td>
</tr>
<tr>
<td>5. Exploration of childhood</td>
<td></td>
</tr>
<tr>
<td><strong>Acceptable but not necessary</strong></td>
<td><strong>Proscribed</strong></td>
</tr>
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<td>1. Paraphrasing</td>
<td>1. Prescribing psychotropic medications</td>
</tr>
<tr>
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</tbody>
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<thead>
<tr>
<th>PRINCIPLE</th>
<th>purpose/rationale</th>
<th>attitude</th>
<th>category of activities</th>
<th>example/technique</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACILITATE MUSICAL &amp; EMOTIONAL ATTAINMENT</td>
<td>increase opportunities for awareness of self, shared attention, social reciprocity, and relationship building</td>
<td>follow the child's focus of attention, behavior, and interests; meet the child where they are musically and emotionally</td>
<td>create moments of musical attention (synchronicity that may develop into emotional attention; emotional relating; incorporating the child's interests and needs)</td>
<td>respond to the child's utterances and behaviors using improvised music (e.g., by holding, mirroring, matching techniques)</td>
</tr>
<tr>
<td>SCAFFOLD INTERACTIONS DYNAMICALLY</td>
<td>increase opportunities for the child to comprehend, engage in, and initiate interaction</td>
<td>meet the child's intentions/behavior as communicatively intended</td>
<td>while following the child's lead and musical ideas, form the child's expressions into recognizable musical forms, patterns, or motifs</td>
<td>apply improvisational music therapy techniques (e.g., rhythmic grounding, shaping, exaggerating, omitting, tone-deciding, rearrangement)</td>
</tr>
<tr>
<td>TAP INTO UNDERSUNG HISTORY OF MUSICAL INTERACTION</td>
<td>facilitate predictability / feeling safe and secure</td>
<td>present as playful and reliable interaction partner fostering the child's range of experience</td>
<td>facilitate the child's expression and actions, jointly create musical/social motifs and routines</td>
<td>recognize and repeat the child's expression and actions in an attuned way, giving them a musical form and value</td>
</tr>
<tr>
<td>FACILITATE EMPOWERMENT</td>
<td>increase intrinsic motivation for interaction and opportunities for affect-sharing</td>
<td>present with positive affect, acceptance, affection</td>
<td>incorporate the child's interests, create pleasant and joyful atmosphere</td>
<td>display interest in the child and foster behaviors and joy during (musical) interaction</td>
</tr>
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<td>PROVIDE A SURE ENVIRONMENT</td>
<td>facilitate predictability / keeping safe and secure; keep the child's anxiety low</td>
<td>present as reliable and responsible interaction partner</td>
<td>maintain same therapy room and equipment</td>
<td>avoid breaking room from interaction partner into &quot;subspace&quot; role</td>
</tr>
<tr>
<td>BUILD &amp; MAINTAIN A POSITIVE THERAPEUTIC RELATIONSHIP</td>
<td>enable rapport and continuation of therapy</td>
<td>present with interest, respect, confidence</td>
<td>provide for consistency in therapy settings</td>
<td>communicate without interruptions and expected events</td>
</tr>
<tr>
<td>FOLLOW THE CHILD'S LEAD (NON-DIRECTIVE APPROACH)</td>
<td>facilitate innate motivation</td>
<td>follow the child's focus of attention, behavior, and interests; meet the child where they are musically and emotionally</td>
<td>incorporate the child's interests and motivations</td>
<td>relate to a child's preference for numbers in making up a &quot;number song&quot;</td>
</tr>
<tr>
<td>SET TREATMENT GOALS</td>
<td>meet the individual child's needs, guide and evaluate the therapy process</td>
<td>enable the child to reach the respective multidimensional stages in a certain skill area</td>
<td>assess the child's competencies, emerging abilities, and needs; choose intervention strategies and techniques tailored to an assessed need in a specific area</td>
<td>allow for participation of parents/caregivers or other family members in therapy sessions</td>
</tr>
<tr>
<td>ABOUT SETTING ACCORDING TO FAMILY'S NEEDS, CLINICAL PROGRESSION, AND PRACTICAL POSSIBILITIES</td>
<td>facilitate generalization of skills to everyday settings/support families in building safe relationships among family members</td>
<td>consider the whole range of settings of the child's everyday life</td>
<td>employ family member-mediated intervention strategies</td>
<td>encourage parents to sing and interact with their child</td>
</tr>
<tr>
<td>ADHERE TO PREDETERMINED TREATMENT SCHEDULE</td>
<td>implement distinct skills and behaviors</td>
<td>purvey directive, educational</td>
<td>use explicit demands, that the child complies to task requirements, use intrinsic means of reinforcement</td>
<td>apply an imitation task (model and prompt to imitate) without reference to the child's expression</td>
</tr>
</tbody>
</table>

unique & essential (but not unique to IMT)

compatible (but not necessary)

proscribed
PRINCIPLE

FACILITATE MUSICAL & EMOTIONAL ATTUNEMENT

FOLLOW THE CHILD'S LEAD
(NON-DIRECTIVE APPROACH)

ADJUST SETTING ACCORDING TO PRACTICAL POSSIBILITIES

ADHERE TO PREDETERMINED TREATMENT SCHEDULE

unique & essential

essential
(but not unique to IMT)

compatible
(but not necessary)

proscribed
SURVEY among „IMT/ASD experts“ in 11 countries worldwide

TIME-A | TREATMENT GUIDE SURVEY • Improvisational music therapy (IMT) for children with autism spectrum disorder (ASD)

a) Do you understand this item? (no / somewhat / yes)
b) Do you agree with this item? (no / somewhat / yes)
c) How important is this item? (not important / somewhat important / very important)
d) What changes would you suggest, if any?
e) Any additional thoughts?

→ Would you suggest any additional items (principles) in this category?
   (unique & essential / essential / compatible / proscribed)
**SURVEY among „IMT/ASD experts“ in 11 countries worldwide**

**TIME-A | TREATMENT GUIDE SURVEY**

- Improvisational music therapy (IMT) for children with autism spectrum disorder (ASD)

<table>
<thead>
<tr>
<th>Survey Results</th>
<th>Percentage</th>
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<tr>
<td>„understood“:</td>
<td>81 – 100% (100% for 4 principles)</td>
</tr>
</tbody>
</table>
| „agreed upon“: | principles 1 – 9: 85 – 96%  
proscribed principle: 59% |
| „very important“: | principles 1 – 8: 81 – 100%  
compatible principle: 79%  
proscribed principle: 74% |

Sent out to 42 experts  
Response rate (until Aug. 08, 2013): 71%
SURVEY among "IMT/ASD experts" in 11 countries worldwide

TIME-A | TREATMENT GUIDE SURVEY

- Improvisational music therapy (IMT) for children with autism spectrum disorder (ASD)

SUGGESTED CHANGES (ADDITIONAL PRINCIPLES?)

- how to manage challenging/disruptive/destructive/harmful behaviour
- affect regulation
  - linking sensory perceptions / body awareness
- other emotions apart from enjoyment
  - balance between ‘following the child’ and ‘initiating’
  - verbalisation of feelings and experiences
- differentiate between beginning of therapy and later development

preliminary results
Towards a "consensus model" of improvisational MT:

- Adjust setting according to families' needs, clinical judgement, and practical possibilities

- Essential (but not unique to IMT)
  - Build & maintain a positive therapeutic relationship
  - Provide a secure environment
  - Set treatment goals
  - Facilitate enjoyment
  - Tap into shared history of interaction

- Unique & essential
  - Facilitate musical & emotional attunement
  - Support/scaffold flow of interaction
  - Follow the child's lead
towards a „consensus model“ of improvisational MT:

- **PURPOSE:** increase intrinsic motivation for interaction
- **ATTITUDE:** present with positive affect, acceptance, affection
- **ACTIVITIES:** incorporate child's interests; create pleasant and joyful atmosphere
towards a „consensus model“ of improvisational MT:

**SUPPORT/SCAFFOLD FLOW OF INTERACTION**

**PURPOSE:** increase opportunities for child to comprehend, engage in, & initiate interaction

**ATTITUDE:** meet the child's initiatives/behaviour as communicatively intended

**TECHNIQUES:**
- rhythmic grounding
- shaping, exaggerating
- extemporising
- frameworking
The music therapy approach applied in this study is based on the ideas and principles of improvisational music therapy [Bruscia, 1987; Wigram, 2004], findings from previous music therapy research [Edgerton, 1994; Gattino, Riesgo, Longo, Leite, & Faccini, 2011; Kim, 2006; Kim, Wigram, & Gold, 2008, 2009], and developmental psychology [Stern, 2010]. The music played or sung by the therapist is generally attuned to the child’s (musical or other) behaviour and expression and includes various improvisational techniques to engage the child and establish contact with the child. To this end, “musical” features of the child’s expression (pulse, rhythmic, dynamic or melodic patterns, timbre etc.) may be mirrored, reinforced, or complemented, thus allowing for moments of synchronisation between child and therapist and giving the child’s expressions a pragmatic meaning within the context. To allow elicitation of specific social communicative behaviours, the therapist may also gently provoke the child e.g. by violating expectations or jointly developed patterns. While engaging in joint musical activities within a shared history of interaction, the child is offered opportunities to develop and enhance skills such as affect sharing, joint attention, imitation, reciprocity, and turn-taking, all of which are important for later development in language and social competency [Mundy, Sigman, & Kasari, 1990; Sigman et al., 1999].
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- Adjust setting according to families' needs, clinical judgement, and practical possibilities
- Build & maintain a positive therapeutic relationship
- Provide a secure environment
- Set treatment goals
- Facilitate enjoyment
- Facilitate musical & emotional attunement
- Tap into shared history of interaction
- Support/scaffold flow of interaction
- Centralize facilitation of musical and emotional attunement
- Support/ scaffold flow of interaction

Unique & essential (but not unique to IMT):

- Build & maintain a positive therapeutic relationship
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Adjust setting according to families' needs, clinical judgement, and practical possibilities
thoughts?
questions?
feedback?
recommendations?
advice?

mg@hum.aau.dk


thanks!