STROKESTRA®: Holistic Stroke Rehabilitation through Creative Music-making

@RPOonline #STROKESTRA
Overview

• Background & rationale
• STROKESTRA® development, techniques & impacts
• Challenges & lessons for working collaboratively with health services
Royal Philharmonic Orchestra - Residency Model

• 7 ‘Principal’ Residencies in culturally underserved areas of England
• Concerts underpinned by needs-based work embedded in the community
• Using the Orchestra as cultural and social resource
• All projects use creative music-making to achieve artistic, social, and personal aims
• Increasingly identifying health needs as priorities
Evidence Base

• Studies have focused on the use of music to promote **positive mood** and **lower depression and anxiety**. (cf. Kim et al, 2011; Poćwierz-Marciniak, 2014; Särkämo, 2017)

• Listening to music has been found to **improve visual awareness, visual attention** and **unilateral neglect**. (cf. Särkämo et al, 2014; Rodriguez-Fornells et al, 2012; Tsai et al, 2013; Bernardi et al, 2017)

• Studies have concluded that music listening can **improve verbal memory** and **attention**. (cf. Särkämo et al, 2012; Särkämo et al, 2014)
Evidence Base

• Cochrane reviews concluded rhythmic auditory stimulation can be beneficial for improving gait parameters. (Bradt et al, 2010; Magee et al, 2017)

• Music has been shown to support upper limb recovery incl. improved fine & gross motor movements and self-management. (cf. Altenmüller et al, 2009, van Wijck et al, 2012; Raglio et al, 2013)

• Listening to music can also support bilateral stimulation and neuroplastic changes in stroke patients. (cf. Amengual et al, 2013; Grau-Sánchez et al, 2013; Särkämo et al, 2014; Särkämo, 2017)

• Group therapy has also been shown to encourage additional benefits such as development of shared coping mechanisms and social support. (cf. Cowdell and Garrett, 2003; Perruzza and Kinsella, 2010; Oouchida et al., 2013)
Structure

- Participants referred by lead therapist who works with patient to choose individualised goals
- Participants join either the AM or PM group
- Sessions every two weeks led alternately by RPO and clinical staff
- Each group receives 1x 2-hour session on project days
- Participants given instruments and ‘homework’ to continue work between projects
- Culminates in a public performance
Sessions
Sessions
Evaluation

• Stroke Impact Scale v3.0 – baseline and post-project
• Specific goal related assessments (e.g. COAST, GAD-7, PHQ-9, Chedoke Upper Limb)
• Post-project semi-structured interviews with patients
• Post-project evaluation surveys with carers
• Post-project evaluation surveys with clinical staff
• Focus group with patients and carers
• Focus group with RPO team
Results – Patient Interviews

- Symptom relief - 86%
- Social benefit - 91%
- Cognitive benefit - 86%
- Emotional benefit - 86%
- Physical benefit - 71%
# Results – Stroke Impact Scale

<table>
<thead>
<tr>
<th>Domain</th>
<th>Stroke Impact Scale - % of patients increasing by at least 10 points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Strength</td>
<td>33.3</td>
</tr>
<tr>
<td>Cognition</td>
<td>43.8</td>
</tr>
<tr>
<td>Mood</td>
<td>43.8</td>
</tr>
<tr>
<td>Communication</td>
<td>35.3</td>
</tr>
<tr>
<td>Activities</td>
<td>31.3</td>
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<tr>
<td>Mobility</td>
<td>18.8</td>
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<tr>
<td>Hand use</td>
<td>56.3</td>
</tr>
<tr>
<td>Participation</td>
<td>62.5</td>
</tr>
</tbody>
</table>
Further Results

• 100% of family carers reported an improvement in their own wellbeing, and improved relationships with their relative.

• Participants reported a change in the traditional patient-therapist relationship.

• Clinical staff reported renewed energy, new ways of working and confidence in use of musical techniques.
Testimonials

“If you have a stroke you think your life is completely over because you can’t do what you did before. But coming here, you found out that you can do things.’ **Patient**

“It made me feel I wasn’t the only one in my position. Caring can be a lonely path at times and you can feel sad.” **Carer**

“I found this project inspiring and energising. It has made me re-evaluate how we work with patients and the priorities we have and if we need to revisit these.” **Clinician**
Current Work

• 3-year programme in Hull, including adapting the model for delivery in a residential unit

• Developing a programme in Stoke-on-Trent with a second health service, tailoring to local needs

• Research partnership with local universities

• Providing consultancy to other stroke services and orchestras wishing to develop similar programmes
Key Challenges

• Finding shared language(s)
• Unpicking competing objectives/politics
• Navigating opposing timelines – funding, protocols, feasibility, research, etc.
• Ensuring balance between clinical and musical dimensions – staff must feel empowered to be experts
Key Learnings

• Top-down support to get things going; on the ground staff to make things run
• Evidence is paramount
• Programmes must be responsive – both in delivery and design
• Better music = better therapy
• Power of peer support and self-management
Acknowledgments

With thanks to our partners in Hull and Staffordshire:

And our many funders:
References & Further Reading


References & Further Reading


Thank You!

To follow the progress of STROKESTRA®, visit: www.rpo.co.uk/strokestra
Guardian Film ‘Hitting the Right Note’

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