Using Knowledge to Change Practice
Information in Action series

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Don’t forget to provide your feedback on this series. We want to know what interests you for our next set of sessions.

Survey: https://goo.gl/cbKtGG
Brought to you by....

Step by Step – Bringing Evidence to TR Practice
A Practical Approach
Presented by
Sheila Kennedy, B.A.R.A. and
Kellie Duckworth, BTR, CTRS
Sunny Hill Health Centre for Children

May 13, 2015 – CTRA Conference, Newfoundland

and OUR evidence group......
Evidence-Based Practice Resources

**STEP 1: Formulating Your Clinical Question**
- Prioritising Your Clinical Queries
- Tools for Writing Clinical Questions
- Knowledge Product Templates

**STEP 2: Searching for Evidence**
- Documenting Your Current Practice
- Sources of Evidence
- Database Search Tips
- How to Find Full Text
- Citation Management Tools
- Saving Your Search
- Choosing Your Best Evidence

**STEP 3: Appraising the Evidence**
- Appraisal Tools
- Level of Evidence Rating Tools
- Study Design Identification Flowchart
- Statistical Methods Appraisal Flowchart
- Clinical Applicability Form

**STEP 4: Applying Evidence to Practice**
- Traffic Lighting Overview and Resources
- Practice Change Plan
- Knowledge Translation Plan
- Developing Education Materials
- Evidence for Practice (E4P) Resources
- Identifying Research Directions

**STEP 5: Evaluating Evidence Use**
- Selecting an Outcome Measure
- Knowledge Translation Evaluation Tools

Evidence Centre
Step 1

- **P** – Population (among)
- **I** – Intervention (does)
- **C** - Comparison (versus)
- **O** – Outcome (affect)
Amongst individuals who are non-responsive, is sensory stimulation more meaningful than background noise (general stimulation)?
Step 2

• Searching for the evidence:
  – Documenting your current practice
  – Look to your Specific Program Plans or program descriptions
  – Summarize the information
| **Person(s) involved in evidence search:** | **Date:**  
| **Dept/Team:** | **Intervention under investigation:** (what program are you looking at—i.e. fall prevention) |
| | **Population:** (what is the target population for the group, what are the unique characteristics of this group, how would you describe the population to a colleague) |
| | **Treatment intensity:** (how many times a week, what is the duration of the program) |
| | **Treatment protocols:** (what is the key information for content and process, program considerations) |
| | **Outcome(s) of Intervention:** (what is the expected outcome of the intervention, what do you hope to happen) |
| | **Outcome measures used:** (what tool are you using to measure the effect of your interventions) |
| | **Evidence on which program is based:** (what articles do you have to support your decision making process; what input do you have from clients) |
| | **In-house experts:** (who within your organization supports and can act as a resource for this program) |
| | **Available education materials:** (for clients, families, staff) |
| | **Other Information:** (community partnerships, impetus for search) |
Population: a person who is unresponsive

• **Unresponsive** --- We said this defines unresponsive: catatonic state, -guess work of comprehension, -not necessarily in agreement from team, -++sleeping, -blank look, -agitation or not, -emotional response

• **Unique characteristics** --- We said these would be the traits: -no reaction or flat affect, -total care, -don’t use any form of communication, unable to communicate verbally, -low functioning, -minimal eye contact, -eye tracking/scanning-not always consistent

• **Describe population to a colleague** --- We said this is how we would define the population: -in bed for long periods of time, -not engaged with their environment, -full assist to get up and down, -sometimes restrained, -can’t demonstrate that they comprehend
Assessments

Neuro Development Sequencing Theory

Global Deterioration Scale

Level III

Assets: Conscious; able to respond to familiar stimulation; may be able to make eye contact.
Liabilities: Nonambulatory; poor trunk control; poor head and neck control; poor range of motion; poor strength; eg, head lag; head or knees contracture; poor vision and hearing; may be able to roll (or may roll); incontinent

Interventions:
- Passive and active range of motion
- Massage
- Positioning (eg, air mat, bean bag chair)
- Reaching activities
- Air mat therapy
- Sensory integration, special sensory events, and tactile simple pleasures items
# Specific Program Plans

**Stimulation Interventions**
- Horticultural Therapy
- Nature Walks
- Pet Therapy
- Sensory Flavours
- Spa Day

**Relaxation Interventions**
- Singing/Playing Music
- Hand Massages/soaking hands
- Warm Blankets
- Squeezy Balls
- Simple Pleasures (therapeutic muff)
- Sensory Cart
Intervention under investigation:
Stimulation

Treatment intensity:
• 1 -3 times/week, 1 /month (varies) can be daily
• 5 – 45 minutes

Treatment protocols:
• Quiet area
• Uninterrupted time
• Uninterrupted space
• Verbal direction
• Physical direction/cueing - hand over hand
• Modeling
• Staff observation – know typical responses/changes to consider and guide the program
• Client not fearful of intervention

Outcome(s) of Intervention:
• Improved mood , Visual tracking
• Positive interaction ( willingness to touch/pet animal, talk/express self, wanting to be there, positive facial expression, turning head in direction of food/stimuli, positive vocalization/verbalization, nodding, smiling, manipulation of object)
• Reduction in anxiety or restlessness
• Increased focus and concentration for a minimum of 10 minutes
• Increased bilateral use of hands,

Outcome measures used:
Observation , Behavior tracking

Evidence on which program is based:
• Therapeutic Paws of Canada
• St. John Ambulance – Dog Therapy program
• Dementia Practice Guidelines
• Montessori approach , Nest
**Intervention under investigation:**

**Relaxation**

**Treatment intensity:**
1 – 3 times/week  
5 – 45 minutes

**Treatment protocols:**
- Quiet space
- Comfortably seated or lying down
- Optional: music to enhance therapeutic environment
- Uninterrupted time (staff)
- Follow infection control procedures where applicable
- Calm voice, introduce intervention, read body language
- Model: hand over hand, initiate interaction

**Outcome(s) of Intervention:**
- Reduced anxiety
- Increase in relaxation
- Decreased responsive behaviors
- Reduction/prevention of restlessness
- Positive engagement as defined by known responses
- Increased use of extremities in meaningful activity

**Outcome measures used:**
Observation, Behaviour Tracking

**Evidence on which program is based:**
- Simple Pleasures
- Dementia Practice Guidelines
- Montessori approach
Step 3 Appraising the Evidence

- Why do I need to do this?
- Is some evidence better than others?
- How do I find evidence?
- What do I do with it once found?
- How do I know if the evidence is any good?
- Finding a common path
- What did we learn?
Finding the information

- http://www.childdevelopment.ca/Evidencecentre/EvidenceBasedPractice.aspx
- Google scholar alerts
- http://www.tripdatabase.com
- http://rtwiseowls.com/
- Education facilities
- Library
# Article analysis work sheet

<table>
<thead>
<tr>
<th>Prepared by</th>
<th>Date</th>
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<table>
<thead>
<tr>
<th>PICO Question</th>
</tr>
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<table>
<thead>
<tr>
<th>Review date</th>
<th>[Usually 2 years later]</th>
</tr>
</thead>
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<table>
<thead>
<tr>
<th>Citation/Reference (e.g., author(s); article title; journal; volume/issue/pages; year):</th>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Summary of Evidence:</th>
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**Is the study valid? [explain]** – give thought to methodology, was relevant background literature reviewed, sample size, transferability, outcome measures, was the intervention used, described in detail (could you replicate it) are there any biases and reliability.

<table>
<thead>
<tr>
<th>What are the results?</th>
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<table>
<thead>
<tr>
<th>Do they apply to my client(s)? [explain]</th>
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</table>

<table>
<thead>
<tr>
<th>Knowledge Gaps: (limitations of the study, what information are you missing)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Bottom Line: (what implications does this study have to your work, how does this evidence affect your clinical decision-making, would you do anything differently, does this information lead to a practice change)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Next steps:- where to take this information, knowledge transfer plan, cost analysis.</th>
</tr>
</thead>
</table>
When analyzing an article think about:

• Is the purpose stated clearly?
• Is the literature that they reviewed relevant to the study?
• Is it a qualitative or quantitative study?
• Can you repeat the methods?
• Do you have a true sense of who the participants were?
• What outcome measure was used?
• Was their process clear, did they chunk the data into themes? Could you follow their thoughts?
• What are the key concepts? Can you generalize the results?
• Did you get the ‘whole’ picture?
• What did you learn from the study? How do you feel about the study? Will this impact your work?
Our experience with article analysis

• 12 people volunteered to ‘take on’ an article.
• Each and every one of us struggled ....
  – “I had to keep a dictionary handy”
  – “…there were all theses symbols, I still have no idea what they were for”
  – “there were so many acronyms I had to rewrite the article just to figure out what the heck was going on.”
  – “I’m used to reading the conclusion and going from there”
Lighting the way

- **RED**: High-quality evidence exists demonstrating the intervention is ineffective—therefore do not use this approach.
- **YELLOW**: Low-quality evidence or conflicting evidence exists supporting the use of this intervention; no evidence supporting this intervention’s effectiveness—therefore measure the outcomes of intervention carefully when using this approach to ensure that the goal is met.
- **GREEN**: High-quality evidence that supports the effectiveness of the intervention—therefore use this approach.
Green Light Summary

- If the stimulants were in line with a person’s known interest responsiveness to the stimulant increased for higher functioning individuals. There was a varied affect for people who are lower functioning, but not a negative response.
- We decided to seek out a copy of the assessment tool – Observational Measurement of Engagement.
- The most effective stimulation is 1:1, socially oriented and personally meaningful.
- The stimulation that garnered the longest duration of engagement was music.
Green Light Summary

• All categories of stimulation (human social stimulation, simulated social stimulation (videos), inanimate (stuffed dolls), etc) improved engagement vs no stimulation

• It wasn’t just what the stimulation was, equally important was environment stimulation --- a long introduction to the stimulation, some level of background noise, the amount of people around (more people, more response)

• Targeted stimulation got more of a response than environment stimulation
Green Light Summary

• People respond to auditory stimulation, never assume the person is not aware or not able to respond
• Montessori interventions heighten/accentuate responses, effective in reducing agitation for people who have lost fluency in English
• Tapping into procedural memory more effective than verbal memory.
• Verbally agitated behaviors (calling out) associated with lower mood (meds can be effective). Physically agitated behaviours associated with lack of meaningful engagement, socialization (non-pharmacological interventions first line strategy).
Step 4

Applying the evidence to practice
<table>
<thead>
<tr>
<th>Proposed practice change:</th>
<th>Evidence on which it is based:</th>
</tr>
</thead>
<tbody>
<tr>
<td>update relaxation and stimulation program protocols / spp’s</td>
<td>critical literature review of 13 articles</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Expected impact of clinical change</th>
<th>Key Messages</th>
</tr>
</thead>
<tbody>
<tr>
<td>revised SPP’s, informed best practice, validation of previous practice, increased outcomes for clients</td>
<td>reliability of program, risk management, validation, evidence based, know what’s helpful, harmful, latest evidence</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stakeholders</th>
<th>Role in Practice Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vets clients Family &amp; Volunteers:</td>
<td>to have awareness knowledge and receivers of service verbal feedback</td>
</tr>
<tr>
<td>Managers: Interdisciplinary team</td>
<td>support have awareness of the rationale, communication support have awareness of the rationale, communication, get on Feb mtg agenda (Laura, Emily, ALB)</td>
</tr>
<tr>
<td>Nursing:</td>
<td>support role as they ‘live’ the protocol</td>
</tr>
<tr>
<td>RT staff</td>
<td>implementation, stay on message, assist in communication, evaluation</td>
</tr>
</tbody>
</table>
**Define Practice Change:**
See revised protocols (attached), it includes:
Components of intervention (Current and proposed practice)
Tx intensity (Current and proposed)
TX protocols (Current and proposed)

<table>
<thead>
<tr>
<th>Information available for professionals:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SPP’s &amp; Practice Protocol to be merged, create template for outcomes</td>
<td>Rhonda Georgina</td>
</tr>
<tr>
<td>Benefits &amp; Tips of best practice</td>
<td>Bernadine, Laura, Kathy and Emily to create ‘posters’</td>
</tr>
</tbody>
</table>

**Addressing Barriers of Practice Change:**

<table>
<thead>
<tr>
<th>Consideration</th>
<th>Barrier</th>
<th>Planned Action</th>
<th>Key People</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Capacity</td>
<td>The fact that the protocols are not that different, easy to continue w previous practice,</td>
<td>Before the session RT staff will review the protocol take 5 minutes to re set Use a beginners mind</td>
<td>RT</td>
</tr>
<tr>
<td>Outcome measure</td>
<td>Need for 1:1 tracking</td>
<td>Template to be created</td>
<td>Rhonda B Georgina M</td>
</tr>
<tr>
<td>Lack of awareness</td>
<td>Other staff interrupting session</td>
<td>Posters on doors Do Not Disturb or quiet please, session in progress</td>
<td>Pre Program: RT staff will approach unit staff to orient them to what is going to go on</td>
</tr>
</tbody>
</table>
Protocol for Relaxation Programs

Please consider these revised Program Protocols when facilitating programs for:

Intervention: **Stimulation**

Population: **Non responsive individuals**

**Population: Non responsive individuals, as per guideline:**

**Target:** Unresponsive defined as: catatonic state, - guess work of comprehension, - not necessarily in agreement from team, - + sleeping, - blank look, - agitation or not, - emotional response

**Unique characteristics:** - no reaction or flat affect, - total care, - no form of communication, unable to communicate verbally, - low functioning, - minimal eye contact, - eye tracking/scanning - not always consistent

**Describe population:** - in bed for long periods of time, - not engaged with their environment, - full assist to get up and down, - sometimes restrained, - can’t demonstrate that they comprehend

**Treatment intensity:**

- 1 – 3 times/week
- 5 – 45 minutes
Treatment protocols:

**Preamble:** 1:1 is best for results, people respond to auditory stimulus never assume they are not aware, people respond more when activity is personally meaningful and are typical known responses for the person. Targeted got more response than environmental. Use name in a firm voice—may engage, touch.

**Environmental considerations:** heat, natural lighting, quiet space, comfortably seated or lying down, background music to enhance therapeutic environment, uninterrupted space/time

**Procedural:** follow infection control procedures where applicable, be consistent in sequencing of intervention, in a calm voice introduce intervention, observe body language for cues to begin, tap into procedural memory by modeling hand over hand, and verbally cue each step.
Use social orientation: (i.e. social orientation to what we will be doing, creating a context to what you are doing in the activity itself front loading as part of engagement strategy:

- Front loading
- Environmental orientation
- Social orientation (introductions)
  - Quiet area
  - Uninterrupted time
  - Uninterrupted space
  - Verbal direction
  - Physical direction/cueing - hand over hand
  - Modeling
  - Staff observation – known typical responses for that person/changes to consider and guide the program
  - Client not fearful of intervention
  - Intervention Based on Individual Interests
  - * Use of Music increases Activity Tolerance
  - May need to try multiple times
FACT SHEETS
Date:

Participant’s Name:

Did the participant accept the stimulus? Yes  No

Duration (in seconds, how long engaged with stimulus):

Attention to the stimulus:

<table>
<thead>
<tr>
<th></th>
<th>not attentive</th>
<th>somewhat attentive</th>
<th>attentive</th>
<th>very attentive</th>
</tr>
</thead>
<tbody>
<tr>
<td>eye tracking</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>visual scanning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>facial</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>motoric or verbal feedback</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>eye contact</td>
<td></td>
<td></td>
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</table>

Attitude toward the stimulus:

<table>
<thead>
<tr>
<th></th>
<th>very negative</th>
<th>negative</th>
<th>somewhat negative</th>
<th>neutral</th>
<th>somewhat positive</th>
<th>somewhat positive</th>
<th>very positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>facial expression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>verbal content</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>physical movement</td>
<td></td>
<td></td>
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</tbody>
</table>
Observational Measure

Activity:

<table>
<thead>
<tr>
<th>Activity</th>
<th>none of the time</th>
<th>a little of the time</th>
<th>some of the time</th>
<th>most or all of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>held the stimulus</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>manipulated the stimulus</td>
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<tr>
<td>talked to the stimulus</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>talked about the stimulus</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>was disruptive</td>
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<tr>
<td>inappropriately manipulated</td>
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</tr>
<tr>
<td>other</td>
<td></td>
<td></td>
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</table>

Target of the participant's remarks

<table>
<thead>
<tr>
<th>What was the target of remarks:</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>stimulus itself</td>
<td></td>
</tr>
<tr>
<td>participant him/herself</td>
<td></td>
</tr>
<tr>
<td>a staff member(s)</td>
<td></td>
</tr>
<tr>
<td>another resident(s)</td>
<td></td>
</tr>
<tr>
<td>other</td>
<td></td>
</tr>
<tr>
<td>What was stated:</td>
<td></td>
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<tr>
<td>-------------------------------------</td>
<td></td>
</tr>
<tr>
<td>stimulus itself</td>
<td></td>
</tr>
<tr>
<td>participant him/herself</td>
<td></td>
</tr>
<tr>
<td>a staff member(s)</td>
<td></td>
</tr>
<tr>
<td>another resident(s)</td>
<td></td>
</tr>
<tr>
<td>other.</td>
<td></td>
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</table>
Step Five

Evaluate
**Evaluation:**

Change to take effect: end of Feb 2017  
Evaluation date: end of April 2017

<table>
<thead>
<tr>
<th>Evaluation Component</th>
<th>Targeted Evaluation Date</th>
<th>Notes:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Was the Practice Change Plan executed?</td>
<td></td>
<td></td>
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<tr>
<td>Was practice change effective at improving client outcomes?</td>
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<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Evaluation Component</th>
<th>Targeted Evaluation Date</th>
<th>Notes:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did the outcome measurement capture what we expected?</td>
<td></td>
<td></td>
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<tr>
<td>Unexpected outcomes?</td>
<td></td>
<td></td>
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<tr>
<td>Unexpected barriers?</td>
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</tbody>
</table>

**Following Evaluation of Program Change:**

**Plan Moving Forward: (document your plan moving forward)**

1. Continue with program.  Yes ______ No ______
2. Changes being made based on evaluation. (Decrease number of times offering program. Change time.)
3. Do another literature search in two years.
Our Experience

How we thought it would go:  Reality:
Resources

- Sheila Kennedy, B.A.R.A. and Kellie Duckworth, BTR, CTRS
- Sunny Hill Health Centre for Children
Resources Continued.....

- http://rtwiseowls.com/
- Atherton, C., Barratt, M. & Hodson, R. ((2005). Teamwise using research evidence a practical guide to teams. www/rip.or.uk/teams


Thank you!

Check the collection of presentations and available recordings here → library.nshealth.ca/InfotoAction

Don’t forget to provide your feedback on this series. We want to know what interests you for our next set of sessions.

Survey: https://goo.gl/cbKtGG