Outcome measures for occupational therapists working with children and youth

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COT definition 2004

• Occupational therapy enables people to achieve health, well being and life satisfaction through participation in occupation

“Occupational therapy is a client-centred health profession concerned with promoting health and well being through occupation. The primary goal of OT is to enable people to participate in in the activities of everyday life. Occupational therapists achieve this outcome by working with people and communities to enhance their ability to engage in the occupations they want to, need to, or are expected to do, or by modifying the occupation or the environment to better support their occupational engagement” (WFOT 2012)
Outcome measure definition

• “Assessment tools that are used to evaluate a change in particular attributes of an individual over time, in areas that are meaningful to his or her life” (Majnemer 2010p165)
Why do we need outcome measures?

• Crucial in identifying optimum techniques for the best clinical outcomes
• Demonstrating outcomes essential to securing funding from commissioners
• Shows children and families benefits of OT
• Encourages reflective practice

“Has my intervention worked?”
Goal setting

• Collaboration with the client is a core OT skill (COT, 2009)
• OT services that set goals are more effective and have shorter waiting lists (Kolehmainen et al, 2010; Novak et al, 2013)
• Supported by motor learning literature (Schmidt & Lee, Shumway-Cook & Woollacott, 2007)
• Collaborative goal setting ensures child & family centered service (Rosenbaum et al, 1998)
Goal setting

Congruent with

• Children and young people’s health outcomes forum (DoH 2012)

• International Classification of Functioning Disability & Health – Children and youth version (ICF-CY) (World Health Organisation 2007)

• National Service Framework (NSF) for Children, Young People and Maternity Services and NSF for Long Term Conditions (DoH, 2004)
Child and family centred therapy

• Decision making in collaborative partnership between parents and professionals, reflecting family rather than therapist goals

• Parents are satisfied with services when they feel professionals listen to parents' or children's viewpoints or concerns (Rosenbaum et al 1998)

• ‘Satisfaction with services has been shown to increase adherence to treatment recommendations and to decrease feelings of distress and depression, as well as improve parental well being.’ (Rosenbaum et al 1998)
Canadian Occupational Performance Measure

• Individualised measure designed for occupational therapists to detect self-perceived change in occupational performance problems over time

• Standardized assessment instrument - specific instructions and methods for administering and scoring

Canadian Occupational Performance Measure
(Canadian Association of Occupational Therapists, 1997; Townsend & Polatajko, 2007)
COPM Administration
Semi Structured Interview Process

STEP 1 Identify occupational performance issues

STEP 2 Rate importance occupational performance issues; identify 3 to 5 most important to client(s)

STEP 3 Scoring - rate performance & satisfaction

STEP 4 Re-assessment; re-scoring of performance & satisfaction

STEP 5 Computing change scores
Identifying occupational performance issues (goals)

• Pediatric Activity Card Sort (PACS) (Mandich, Polatajko, Miller & Baum 2004)
• Perceived Efficacy and Goal Setting system (PEGS) (Missiuna, Pollock and Law 2004)
• Talking Mats™ (University of Stirling 2011)
• Photos from internet, clipart
• Daily log
Goal Attainment Scaling (GAS)

• Evaluates progress towards goals set by child and family
• Criterion referenced measure
• Introduced in 1960 by Kirusek and Sherman for assessing outcomes in mental health
• Now widely used in range of settings
GAS-Light model

• Building Goal Attainment Scaling (GAS) into clinical thinking

• 6 steps in decision making and recording

• Aid to decision-making and outcome evaluation

• Uses words rather than numbers
6 steps

1. What are the child’s principal presenting problems?
2. What do you expect to be able to achieve with rehabilitation?
3. Is the team and the child/family agreed on the expected outcome?
4. How will outcome be assessed?
5. Plan treatment
6. Review
SMART GAS goals

• **S** specific, significant, stretching
• **M** measurable, meaningful, motivational
• **A** agreed upon, attainable, achievable, acceptable, action-oriented
• **R** realistic, relevant, reasonable, rewarding, results-oriented
• **T** time-based, timely, tangible, trackable
GAS-light verbal scoring system

• At Baseline – with respect to goal do they have
  – No function
  – Some function

• At Outcome – was the goal achieved?
  – Got worse
  – No change
  – Partially achieved
  – As expected
  – A little more
  – A lot more
Using GAS to negotiate realistic goals

• For example, if a patient wants to achieve active hand function, when realistically using the affected hand as a prop is the expected outcome.

• In this situation, the active function task can be set at level 2, and use as a prop at level 0.

• This way, the patient’s goal is not totally dismissed, but is clearly defined as beyond the level of expectation.

(Turner-Stokes, 2009)
Goal Attainment Scaling in neuro-rehabilitation

• 15 children/youth (8 boys, 7 girls), 1 - 19 years discharged between January-October 2012
• 117 goals set
• 70 (60%) goals were met as expected; 24 (21%) above expected levels, 13 goals (11%) were partially met and 10 (8%) remained at baseline
• 78 (53%) goals could be readily mapped to self-care; 17 (15%) to productivity and 8 (7%) to play/leisure with the remainder addressing body functions/impairments
UK Rehabilitation Outcomes Collaboration (UKROC)

- Rehabilitation Complexity Scale – fortnightly
- FIM+FAM on admission and discharge for 8 years + and Pediatric Evaluation of Disability Index (PEDI) for 7 years and under
- Northwick Park Nursing Dependency - monthly
- Northwick Park Therapy Dependency – every other week until 100 collected then monthly
Additional outcome measures

• Goal Attainment Scaling – all children
• Gross Motor Function Measure on all children
• School Function Assessment – all school aged children
• Profession specific measures e.g. Assessment of Motor and Process Skills, COPM
International Classification of Functioning, Disability & Health – Children & Youth (WHO, 2007)
Results

• All activity and participation domains represented to some extent
• Mobility and self-care (except looking after one’s health) particularly well covered
Gaps of note

• Pain
• Leisure, play
• Interpersonal interactions and relationships
• Looking after one’s health aspect of self-care
Case study: Peter

• Boy 11 years 11 months
• Referred by consultant paediatrician for assessment of his motor skills - below 1st %ile on MABC
• ADL - difficulties with shoelaces, writing & riding a bike – from parent & teacher questionnaires & PEGS
• SATs scores all at expected levels except for maths
• There are concerns about education, particularly English, maths, attention and concentration
Assessment

• Coordination - below 1st %ile on MABC
• ADL - difficulties with shoelaces, writing & riding a bike – from parent & teacher questionnaires & PEGS
• Seen by paediatrician to eliminate any other medical cause
• IQ - SATs scores all at expected levels except for maths
## COPM carer’s view

### Performance

1 = not able - 10 = able to do well

<table>
<thead>
<tr>
<th>Goal</th>
<th>Importance</th>
<th>Ax</th>
<th>Review</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laces</td>
<td>9</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>Writing</td>
<td>10</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Tidier maths</td>
<td>6</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Bike</td>
<td>7</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td><strong>Mean score</strong></td>
<td><strong>5</strong></td>
<td><strong>8.25</strong></td>
<td></td>
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### Satisfaction

1 = not satisfied at all - 10 = extremely satisfied

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<td>3</td>
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<td>3</td>
<td>9</td>
</tr>
<tr>
<td>Bike</td>
<td>7</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td><strong>Mean score</strong></td>
<td><strong>2.8</strong></td>
<td><strong>9.25</strong></td>
<td></td>
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## COPM Peter’s view

### Performance

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<td>5</td>
</tr>
<tr>
<td>Bike</td>
<td>5</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td><strong>Mean score</strong></td>
<td><strong>3.8</strong></td>
<td></td>
<td><strong>6.75</strong></td>
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### Satisfaction

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<td>10</td>
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<td>Writing</td>
<td>10</td>
<td>4</td>
<td>8</td>
</tr>
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<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Bike</td>
<td>5</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td><strong>Mean score</strong></td>
<td><strong>2.3</strong></td>
<td></td>
<td><strong>7.50</strong></td>
</tr>
<tr>
<td>Goal</td>
<td>Baseline</td>
<td>Expected level</td>
<td>Review 4 weeks later</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>----------------------------------------------------</td>
<td>----------------------------------------------------------</td>
<td>-------------------------------------------------------</td>
</tr>
<tr>
<td>To tie shoelaces 10/10 times</td>
<td>Cannot do knot or bow</td>
<td>To be able to tie knot and bow</td>
<td>Can tie knot and bow 10/10 times</td>
</tr>
<tr>
<td>To be able to write 5 words/minute faster</td>
<td>73 letters/minute</td>
<td>78 letters/minute</td>
<td>87.5 letters/minute</td>
</tr>
<tr>
<td>To be able to write numbers inside boxes</td>
<td>Numbers always extend beyond squared maths paper</td>
<td>75% of numbers on a page are within boundaries</td>
<td>Achieved through using larger squared paper</td>
</tr>
<tr>
<td>To ride a bike without stabilisers</td>
<td>Unable to position pedal or push off without being held</td>
<td>To be able to push off and ride 3m</td>
<td>Partially could push off but only ride for 1m</td>
</tr>
</tbody>
</table>
Summary

• Both Peter and his father saw improvements in performance and satisfaction for all goals except Peter did not feel his goal of “tidier maths” had improved

• Increased confidence and willingness to try activities he would have avoided before

• Still below 5th percentile on MABC
Measure of Processes of Care (MPOC)

- Self-report measure of parents' perceptions of the extent to which the health services they and their child(ren) receive are family-centred
- Validated on samples of parents whose children range in age from 0 to 17+ years with a variety of neurodevelopmental disabilities or maxillofacial disorders
- MPOC 56 or 20 items for parents/carers
- MPOC-SP for service providers: self-assessment tool for paediatric service providers that measures the extent to which the services they provide are family-centred
## TCT vs. Canchild Results – MPOC 56

<table>
<thead>
<tr>
<th></th>
<th>CanChild</th>
<th>TCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enabling &amp; Partnership</td>
<td>5.65</td>
<td>5.64</td>
</tr>
<tr>
<td>Providing General Information</td>
<td>3.98</td>
<td>4.84</td>
</tr>
<tr>
<td>Specific Information on the Child</td>
<td>4.78</td>
<td>5.76</td>
</tr>
<tr>
<td>Co-ordination &amp; Comprehensive Care</td>
<td>5.46</td>
<td>5.74</td>
</tr>
<tr>
<td>Respectful &amp; Supportive Care</td>
<td>5.90</td>
<td>6.17</td>
</tr>
</tbody>
</table>

1. Not at All
2. To a Very SmallExtent
3. To a Small Extent
4. To a Moderate Extent
5. To a Fairly Great Extent
6. To a Great Extent
7. To a Very Great Extent
Pediatric Evaluation of Disability Inventory (PEDI)

- 6 months – 7.5 yr
- Measures capability & performance by observing self-care, mobility and social function
- Identifies functional deficits to establish treatment plans
- Standardised on a normative sample
  (Haley et al 1992)
School Function Assessment 4-11 years

Looks at 6 settings - regular or special education classroom, playground/recess, transportation, bathroom/toileting, transitions, and mealtime/snack time

• Participation
• Task supports
• Activity performance

(Coster et al 1998)
Physical tasks

• Travel
• Maintaining and changing positions
• Recreational movement
• Manipulation with movement
• Using materials
• Setup and cleanup
• Eating and drinking
• Hygiene
• Clothing management
• Up/down stairs, written work
• Computer and equipment use
Cognitive/behavioural tasks

- Functional communication
- Memory and understanding
- Following social conventions
- Compliance with adult directives and school rules
- Task behaviour/completion
- Positive interaction
- Behaviour regulation
- Personal care awareness
- Safety
Methods

• 70 pupils with severe acquired brain injuries
• 31 traumatic; 29 non-traumatic; 10 anoxic
• 42 male, 28 female
• Aged 4.5–17.2 years (Mean 12.2; SD 3.5)
• Admitted to The Children’s Trust between January 2007 and October 2011
• School Function Assessment on admission and discharge by therapists and teachers working with the pupil
Weeks vs participation in school activities (n=70)

non-traumatic (n = 29)  anoxic (n = 10)  traumatic (n = 31)

Significant difference (p>0.05) between admission and discharge
Task Supports and Activity Performance (n = 70)

Part II Task Supports
- Physical tasks - assistance
- Physical tasks - adaptations
- Cognitive/behavioural tasks - assistance
- Cognitive/behavioural tasks - adaptations

Part III Activity Performance
- Travel
- Maintaining & Changing Positions
- Recreational Movement
- Manipulation with Movement
- Using materials
- Setup & cleanup
- Eating & drinking
- Hygiene
- Clothing management
- Up/down stairs
- Written work
- Computer & equipment use
- Functional communication
- Memory & understanding
- Following social conventions
- Compliance with rules & adult directives
- Task behaviour/completion
- Positive interaction
- Behaviour regulation
- Personal care awareness
- Safety
Children's Assessment of Participation and Enjoyment (CAPE) & Preferences for Activities of Children (PAC)

• 55 items
• 6-21 years

(King et al 2004)
CAPE

- 5 dimensions of participation
- Diversity (number of activities done)
- Intensity (frequency of participation measured as a function of the number of possible activities within a category)
- Enjoyment of activities
- It also provides information about the context in which children and youth participate in these activities (i.e., with whom and where they participate)
Preferences for Activities of Children (PAC)

• The PAC taps into a sixth dimension of participation, i.e., children's preferences for involvement in each activity
Conclusions

• Outcomes need to reflect changes in occupational performance
• Essential for evaluating effectiveness of interventions
• Effective in demonstrating power of occupational therapy interventions