



Beyond a simple narrative: How to describe your swallowing and voice treatments

The New England Symposium for Speech-Language Professionals

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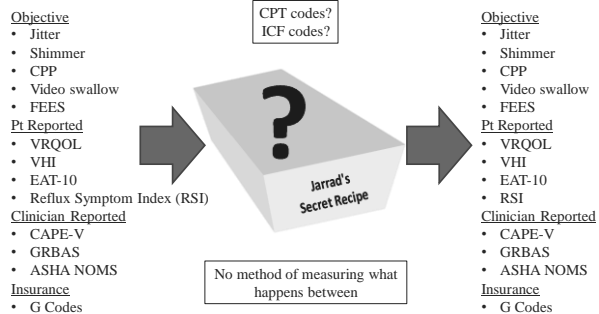


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The “black box” of therapy



Lots of ways to measure the input and output



Rehabilitation Treatment Taxonomy

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SPECIAL COMMUNICATION

Toward a Theory-Driven Classification of Rehabilitation Treatments

Tessa Hart, PhD,^a Theodore Tsaousides, PhD,^b Jeanne M. Zanca, PhD, MPT,^b John Whyte, MD, PhD,^a Andrew Packer, MSPT,^a Mary Ferraro, PhD, OTR/L,^a Marcel P. Dijkers, PhD, FACRM^b

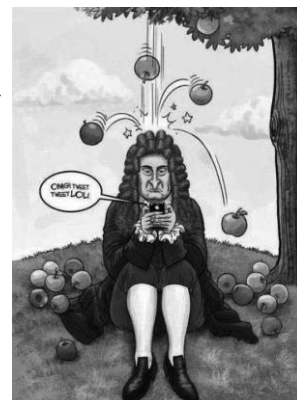
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The RTT is Top-Down: Treatment Theory

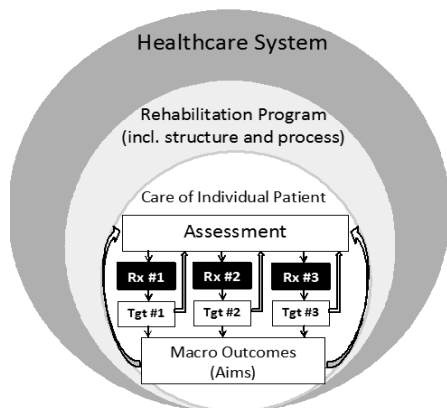
- “...some set of propositions that describe what goes on during the transformation of input into output, that is, the actual nature of the process that transforms received therapy into improved health.”

--Keith & Lipsey, 1993

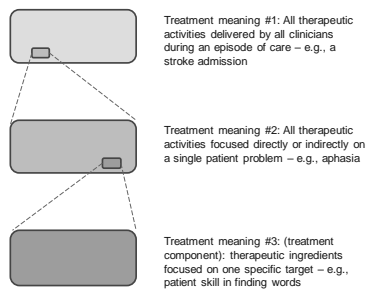
- That is, a statement of *how* and *why* a particular treatment works.

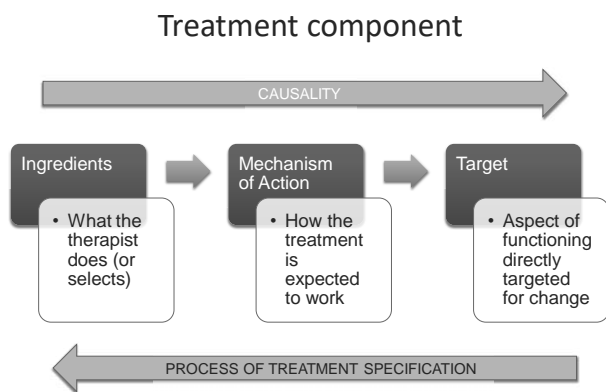


What do we consider treatment?



Relationship between treatment components and the "treatment" in which they are located





Tripartite structure examples

Voice treatment component example:

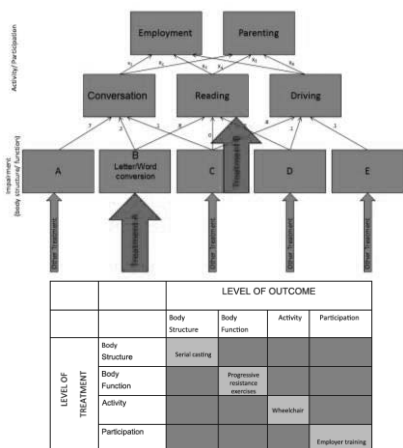
Ingredients	Mechanism(s) of Action	Potential Targets
Diameter of the semi-occlusion (If full occlusion = 0) Length of semi-occlusion (If using a straw) Ask patient to voice with a semi-occlusion	Reduced vocal fold contact during phonation	Improved forward resonance
Specify location of semi-occlusion (eg, alveolar ridge)	AND/OR	OR
Feedback from SLP to improve accuracy	Improved impedance matching between glottis and supraglottal tract	Increased tactile sensations at the alveolar ridge
Ask patient to produce # of reps		OR
Education provided by SLP		Increased vocal efficiency

Swallowing treatment component example:

Ingredients	Mechanism(s) of Action	Potential Targets
Provide food/liquids at specified consistencies Ask patient for effortful swallows during PO trials	Increased propulsion of bolus into esophagus per swallow	Decreased number of swallows per bolus
Feedback from SLP to increase effort	AND/OR	OR
Ask patient to perform # of PO trials	Increased airway closure during swallow	Decreased signs/symptoms of aspiration
Education provided by SLP		

“Enablement” and “Treatment”

“Aims” and “Targets”



Let’s try to break apart some of your therapy activities into Targets, Mechanisms of Action, and Ingredients...

Name of Group	Typical Targets	Typical Ingredients	Mechanisms of Action
O (Organ Functions)	Change OR replace organ functions	Varies by organ system: e.g., energy applied to soft tissues; exercise schedules for strengthening/ endurance training; stimulus exposure parameters for habituation; devices for limb replacement	Varies: Up- or down-regulation of system; passive learning mechanisms; replacement of organ with artificial one; stretching of tissue
S (Skills & Habits)	Improve ability to perform (at both ICF function and activity levels, and both mental and physical tasks); instill new habits	Skill training / habit formation ingredients: instruction, cues, guidance, feedback, practice, etc.	"Learning by doing"
R (Cognitive/ Affective Representations & Volition)	Enhance knowledge, modify attitudes/ beliefs, perspectives on emotionally salient material; change probability of performing specified behaviors	Didactic instruction, prompts to process new or previously acquired information; persuasion, motivational techniques; more or less directive suggestions regarding action	Semantic/ emotional information processing

Examples of Swallow/Voice Targets

Treatment Group	Example Target	Example Ingredients	Hypothesized Mechanism of Action
Organ Functions	Decreased tension of the suprahyoid muscles	Manual traction, manual stretch, manual pressure, laryngeal shaking...	Improved blood flow to the tissue and muscle...
	Increased lingual propulsive force during swallow	Swallow with tongue between teeth, effortful swallow, repetitions, electrical stimulation?	Increased force output of the muscles in the base of tongue
Skills & Habits	Increase forward resonance	Provision of repeated practice (with or without increasing demands); instruction, cues, guidance, feedback, etc.	<u>Learning/automating improved;</u> Source-filter interaction during voicing
	Increased use of head turn strategy during swallowing		Airway closure through vocal fold approximation
Representations	Increased knowledge of vocal hygiene strategies	Didactic instruction, prompts to process new or previously acquired information;	Cognitive/affective information processing
	Increased knowledge of oral hygiene connection to aspiration pneumonia	persuasion, motivational techniques; prompts for action	

Let's try to categorize your treatment targets as Organ Function, Skills & Habits, or Representations...



Thank you!

Rehabilitation Treatment Taxonomy

John Whyte, Tessa Hart, Marcel Djickers, Christine Chen, Mary Ferraro, Andrew Packel, Jeanne Zanca, Lyn Turkstra

Voice Therapy Taxonomy

Nelson Roy, Shaheen Awan, Joseph Stemple, Robert Hillman

