




**CONNECTING AND
COLLABORATING:
IMPROVE PHYSICAL
THERAPY OUTCOMES IN THE
NATURAL ENVIRONMENT**

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OBJECTIVES

- Review Individuals with Disabilities Education Act (IDEA) Part C and the pediatric physical therapist's role
- Explain the principles of evidenced based medicine (EBM) and how they apply to the natural environment
- Recognize online resources for EBM
- Define the Goal Attainment Scale (GAS)
- Describe the components of the GAS
- Create a goal using the GAS
- Identify ways to increase child and caregiver participation in goal writing and implementation
- Discover online resources for patient education





**INDIVIDUALS WITH DISABILITIES
EDUCATION ACT
(IDEA)**

IDEA PART C

- Federal law
- IDEA provides public education for all children regardless of the nature or severity of their disability
- Part C is an optional federal program that supports early intervention for infants and toddlers from birth up to 3 years of age



IDEA PART C ELIGIBILITY

- Developmental delay (DD) or a medical diagnosis with a high probability of a DD
- Criteria is determined by each state based on five domains:
 - Cognition
 - Physical
 - Communication
 - Social/emotional
 - Adaptive
- Eligible infants and toddlers are entitled to early intervention services to be provided in their natural environments
- Services are provided to meet the developmental needs of the child and needs of the child's family to enhance the child's development



NORTH CAROLINA INFANT-TODDLER PROGRAM (NC ITP) ELIGIBILITY

- Standardized test scores 2.0 standard deviations below the mean of a composite score in at least one area
OR
- 30% delay on instruments that determine scores in months in one area of development
OR
- 1.5 standard deviations below the mean of the composite score on standardized tests in at least two areas of development
OR
- 25% delay on instruments which determine scores in months in at least two of the above areas of development



NC ITP SUPPORTS AND SERVICES

- Assistive technology services and devices
- Audiology services
- Early identification and screening
- Evaluations and assessments
- Family training, counseling, and home visits
- Health services
- Medical services (diagnosis and evaluation)
- Nursing services
- Nutrition services
- Occupational therapy
- Physical therapy
- Psychological services
- Respite services
- Service coordination
- Social work services
- Special instruction
- Speech-language therapy
- Transportation and related costs
- Vision services

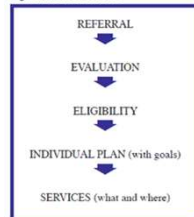
NC ITP GOALS

- The Individualized Family Service Plan (IFSP) is a family's written plan for the Infant-Toddler Program (ITP).
- The IFSP describes how a family and the ITP team will address the child's needs identified by the evaluation and assessment.
- Based on the concerns, resources, and priorities identified by the family.

EARLY INTERVENTION PT

- Provided in the natural environment
- Support families in promoting their children's development, learning, and participation in family and community life
- Provide treatment for motor and self-care needs, assistive technology, and medical/health care science
- Collaborate with the IFSP team

Figure. The IFSP Process



BENEFITS OF PROVIDING PT IN THE NATURAL ENVIRONMENT

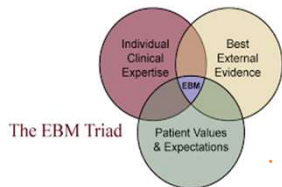
- Part C of IDEA
- Provide assistance to families to improve their child's participation with age appropriate task in their home and community
- Incorporate activities that will be completed throughout their daily activities for improved compliance
- This is the beginning for the family to be an advocate for their child, make sure they understand the disability
- Identify barriers



EVIDENCE BASED MEDICINE (EBM)




EVIDENCE BASED MEDICINE



- APTA- Evidence-Based Practice Tools
 - ArticleSearch
 - Clinical Summaries
 - Tests and Measures
 - Clinical practice guidelines
 - Cochrane Reviews
 - Rehabilitation Reference Center
- Pediatric Physical Therapy Journal
- PEDro
- Google Scholar
- TRIPdatabase






GOAL ATTAINMENT SCALING (GAS)


GOAL ATTAINMENT SCALE (GAS)

- Individualized
- Criterion-referenced measure of change
- Defines a set of unique goals for each patient
- Specify a range of outcomes
- Scores range from -2 to +2



GAS

Level of Expected OUTCOME	Rating	GOAL 1	GOAL 2	GOAL 3
Much More Than Expected	+2			
More Than Expected	+1			
Expected Outcome	0			
Less Than Expected	-1			
Much Less Than Expected	-2			



GAS Potential Benefits (McDougall 2007)

- Easy to understand and use
- Individualize goals
- Improved conceptualization and delivery of intervention
- Improved clarity of therapy objectives for therapists and clients
- Realistic client and therapist expectations of therapy
- Increased client satisfaction
- Increased motivation of the client toward improvement, provided by the very existence of the goals

GAS Potential Limitations

- Risk of bias
- Success depends on the ability to select appropriate goals and predict outcome
- Time consuming at baseline
- Reliability ± The reliability of a therapist's judgement of the impact of intervention
- Validity ± Whether the GAS procedure is measuring what it purports to measure (GAS has been criticized as being a way for therapists to set easy goals that are not clinically relevant)

CRITERIA FOR WRITING GOALS IN GAS FORMAT

- Relevant
- Understandable
- Measurable
- Behavioral
- Attainable
- Time Frame

GAS

Level of Expected OUTCOME	Rating	GOAL 1
Much More Than Expected	+2	
More Than Expected	+1	
Expected Outcome	0	
Less Than Expected	-1	
Much Less Than Expected	-2	



GAS

Level of Expected OUTCOME	Rating	GOAL 1
Much More Than Expected	+2	
More Than Expected	+1	
Expected Outcome	0	
Less Than Expected	-1	
Much Less Than Expected	-2	The child can play in prone independently for 15 seconds with forearm support and head and neck extension.



GAS (3 MONTHS)

Level of Expected OUTCOME	Rating	GOAL 1
Much More Than Expected	+2	
More Than Expected	+1	
Expected Outcome	0	The child can play in prone independently for 1 minute with forearm support and head and neck extension
Less Than Expected	-1	
Much Less Than Expected	-2	The child can play in prone independently for 15 seconds with forearm support and head and neck extension.



GAS (3 MONTHS)

Level of Expected OUTCOME	Rating	GOAL 1
Much More Than Expected	+2	The child can play in prone independently for 75 seconds with forearm support and head and neck extension.
More Than Expected	+1	The child can play in prone independently for 60 seconds with forearm support and head and neck extension.
Expected Outcome	0	The child can play in prone independently for 45 seconds with forearm support and head and neck extension.
Less Than Expected	-1	The child can play in prone independently for 30 seconds with forearm support and head and neck extension.
Much Less Than Expected	-2	The child can play in prone independently for 15 seconds with forearm support and head and neck extension.

GAS

Level of Expected OUTCOME	Rating	GOAL 1
Much More Than Expected	+2	
More Than Expected	+1	
Expected Outcome	0	
Less Than Expected	-1	
Much Less Than Expected	-2	

GAS-LIGHT

Level of Expected OUTCOME	Rating	GOAL 1
Much More Than Expected	+2	
More Than Expected	+1	
Expected Outcome	0	Patient will improve their balance to stand independently for 10 seconds without a loss of balance while playing 4 of 5 opportunities.
Less Than Expected	-1	Pt stands independently for 1 second.
Much Less Than Expected	-2	

GAS-LIGHT

Level of Expected OUTCOME	Rating	GOAL 1
Much More Than Expected	+2	Pt stands for 30 seconds.
More Than Expected	+1	Pt stands for 20 seconds.
Expected Outcome	0	Patient will improve their balance to stand independently for 10 seconds without a loss of balance while playing 4 of 5 opportunities.
Less Than Expected	-1	Pt resists independent standing and stands only with bilateral UE support
Much Less Than Expected	-2	Pt is unable to stand independently

GAS- PRACTICE

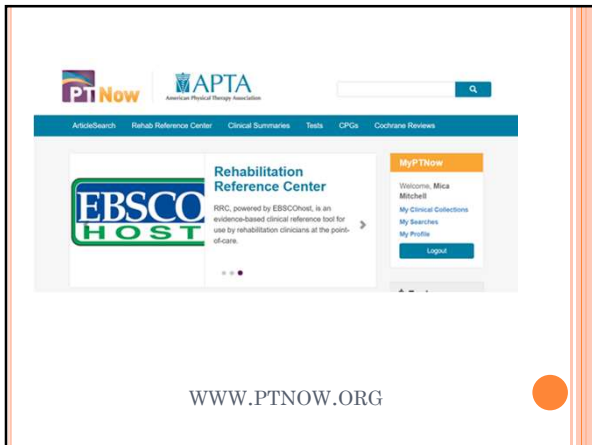
- Cutie Pie was referred to physical therapy in her natural environment at 18 months of age for developmental delay.
- Examination:
 - Spasticity in her upper (UE) and lower extremities (LE), LE>UE
 - LE hypertonicity, especially with movement during transfer
 - Functional Mobility:
 - Independent sitting
 - Stands with bilateral UE support
 - No reciprocal creeping
- Her family's 6 month goals for physical therapy treatment are:
 - Walking
 - Running
 - Play outside with her siblings

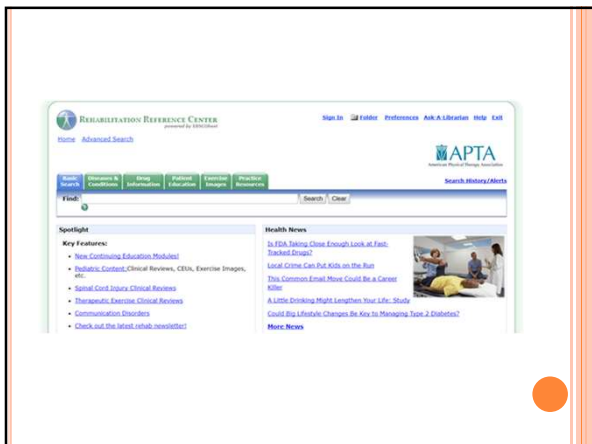
GAS

Level of Expected OUTCOME	Rating	GOAL 1
Much More Than Expected	+2	
More Than Expected	+1	
Expected Outcome	0	
Less Than Expected	-1	
Much Less Than Expected	-2	



ONLINE RESOURCES





REHABILITATION REFERENCE CENTER
(RRC)

- Pediatric Content
- Pediatric Exercise Images
- CUEs
- Clinical Reviews







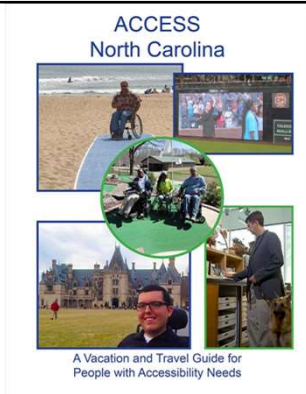
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PODCASTS



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