Treatments for Autism: An Overview of Model Programs

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Objectives

- Review History of Interventions in autism
- Understand Changes in Outcome with intervention
- Review Model Programs
  - Types of programs
  - NRC report
  - Other models
- New issues, strategies, resources, and Challenges
History

• **Intervention 1950-1980**
  - psychodynamic models –
    • Often blamed the parents
  - Only a minority (maybe 20%) of children went to school, most ‘written off’

• **PL 94-142 (1975)**
  - Mandate for school as a right
  - Beginning of a shift in treatment
Outcome in autism

• **Issues in research**
  - Howlin, 2005
    - Differences in method, changes in criteria

• **In general trend has been towards greater improvement**
  - Better adult outcome
  - More individuals with language
  - Higher levels of IQ

• **Problems do remain**
  - Difficulties understanding ‘normal’ ‘cure’
Outcome research: Issues

- **Diagnostic issues**
  - Early studies confusion re: schizophrenia
  - More recently changes in criteria
  - Stringency of definitions

- **Changes in intervention practice**
  - PL 94-142, IDEA
  - Improved early detection

- **Methodological problems**
  - Outcome definitions,
  - Quantifying treatments
Outcome studies -

- **See Howlin (2005) for summary**

- **Definitions uses**
  - Good: moderate to high levels of independence living/job, some friends/acquaintances
  - Fair: need support at work/home but some autonomy
  - Poor: living in situation with close supervision in most activities
Outcome studies: 1956-1974

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<thead>
<tr>
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<tbody>
<tr>
<td>Good</td>
<td>1</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Fair</td>
<td>2</td>
<td>2</td>
<td>1</td>
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<td>Poor</td>
<td>0</td>
<td>8</td>
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Outcome studies: 1989-2003

How to understand improvement?

- **Earlier diagnosis**
  - Progressively younger children
  - Potential for diagnosis of risk < 1 year

- **Better interventions**
  - Understanding nature of change
  - Need to understand mechanisms
  - Dose issues
  - What are key variables?
    - Child
    - Programs
Contributions from/to Development

Autism

Development

Autism has an impact on development
Development has an impact on Autism
Developmental issues in treatment

Autism

Development

Minimize the impact of autism
Maximize developmental gains
Some Terminology

- **Program types**
  - Center based
  - Home based
  - School based
  - State Variations and programs

- **Age related issues in US**
  - <3 (Early intervention programs)
  - >3 Schools mandates to serve

- **Methods used**
  - ABA
    - Discrete trial, pivotal responses
  - Developmental Approaches
  - Eclectic approaches
From evaluation to treatment

- Parent conference
- Participation of school personnel
- Operationalization of recommendations
- The IEP process
- Implementation
- Follow-up
Model Programs

• **Background**

• **NRC report**
  - Structured intensive intervention
  - Commonalities (and differences) in programs
  - NOT every child gets better
  - As a group improved/improving outcomes with early intervention

• **Some interesting issues**
  - University based/affiliated
  - Intensive
    • Average about 25 hours a week
Intervention Programs

• **Should be/include**
  - planned and intensive
  - Use specific curricula
  - Interdisciplinary, integration of services
  - Teachers need experience, training, and ongoing support
  - Family involvement: generalize skills
  - Child engagement is essential
  - Functional behavior management
    • foster behaviors facilitate learning
  - Transition planning
Features of Comprehensive Programs

<table>
<thead>
<tr>
<th>Program</th>
<th>Mean Age at Entry</th>
<th>Hours / Week</th>
<th>Usual Setting*</th>
<th>Primary Teaching</th>
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</thead>
<tbody>
<tr>
<td>Children’s Unit</td>
<td>40</td>
<td>27.5</td>
<td>School (S)</td>
<td>Discrete trial</td>
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<td>(13 to 57)</td>
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<td>Denver Community Based Approach</td>
<td>46</td>
<td>20</td>
<td>School (I), home, community</td>
<td>Playschool curriculum</td>
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<tr>
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<td>(24 to 60)</td>
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<td>Developmental Intervention Model</td>
<td>36</td>
<td>10-25</td>
<td>Home, clinic</td>
<td>Floor time therapy</td>
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<tr>
<td></td>
<td>(22 to 48)</td>
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<td></td>
<td></td>
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<tr>
<td>Douglass</td>
<td>47</td>
<td>30-40</td>
<td>School (S and I), home</td>
<td>Discrete trial; naturalistic</td>
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<tr>
<td></td>
<td>(32 to 74)</td>
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*(S) segregated classroom; (I) inclusive classroom
## Features of Comprehensive Programs (cont’d)

<table>
<thead>
<tr>
<th>Program</th>
<th>Mean Age at Entry Months</th>
<th>Hours Per Week</th>
<th>Usual Setting*</th>
<th>Primary Teaching Procedure</th>
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<tbody>
<tr>
<td>Individualized Support Program</td>
<td>34 (29 to 44)</td>
<td>12</td>
<td>School (I), home, community</td>
<td>Positive behavior support</td>
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<td>LEAP</td>
<td>43 (30 to 64)</td>
<td>25</td>
<td>School (I), home</td>
<td>Peer-mediated intervention; naturalistic</td>
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<td>Pivotal Response Training</td>
<td>36 (24 to 47)</td>
<td>Varies</td>
<td>School (I), home, community, clinic</td>
<td>Pivotal response training</td>
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</tbody>
</table>

*(S) segregated classroom; (I) inclusive classroom
## Features of Comprehensive Programs (cont’d)

<table>
<thead>
<tr>
<th>Program</th>
<th>Mean Age at Entry (range), in Months</th>
<th>Hours Per Week</th>
<th>Usual Setting*</th>
<th>Primary Teaching Procedure</th>
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<tbody>
<tr>
<td>TEACCH</td>
<td>36 (24 and up)</td>
<td>25</td>
<td>School (S), clinic</td>
<td>Structured teaching</td>
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<tr>
<td>UCLA</td>
<td>32 (30 to 46)</td>
<td>20-40</td>
<td>Home</td>
<td>Discrete-trial</td>
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<td>Walden</td>
<td>30 (18 to 36)</td>
<td>36</td>
<td>School (I), home</td>
<td>Incidental teaching</td>
</tr>
</tbody>
</table>

*(S) segregated classroom; (I) inclusive classroom
Areas of consensus on early intervention

• Early intervention is important and can make a major difference for many children

• Importance of
  – Planned, intensive intervention,
  – Interdisciplinary, integrated, experienced providers, family involvement
  – Teaching of specific skills, individualized
  – Child engagement is central
  • 25 hours/week, 12 months per year
Areas to work on

- Social skills
- Communication
- Play
- Behavioral issues
- Organizational issues “learning to learn”
- Adaptive skills, generalization
Translation into Public School Settings

- Recognize child’s difficulties in responding to complex (social/nonsocial) environments
- Balance of “pull out”, small group, classroom-based, and unstructured environments
- Classroom environment
- Continuity and consistency
  - across settings and across people
- Monitoring and flexibility
  - team approach and collaboration
- School - home communication
Social Skills

• Balance of methods
  – Adult instruction, peer, hybrid
  – Teach self-management and social skills
  – Goals
    • initiations and responses with/to peers

• Used for all ages and levels of severity

• Most research has been done with young children
Approaches to teaching social skills

- Vary depending on age of child and level of impairment
- For younger children – focus is often on peers (with adult monitoring)
- For school age – hybrid methods (circle of friends, individual work)
- For adolescences – adult mediated with explicit teaching
Language-Communication

- Language functioning at age 5 is one of the two strong predictors of outcome
- Probably at least 75% of preschoolers with autism can develop useful speech
- Even for individuals with minimal verbal speech teaching alternative COMMUNICATION skills is critical
- Importance of augmentative approaches
Augmentative Strategies

- Augmentative forms of communication
  - Manual sign, Picture Exchange, computerized communication systems, etc.
- Use of visual strategies
- No data that there is a negative result from using augmentative strategies for enhancing communication skills
Areas of differences: Approaches to teaching

- **ABA**
  - Massed trial, naturalistic language

- **Developmental Approaches**

- **Areas of intervention**
  - Initiation, commenting, joint attention
  - Conversational skills, gestures
  - Articulation, prosody

- **Mainstreaming and Integration**
  - Right and wrong ways
Play and Leisure Time skills

- **Challenges for children with autism given the nature of play**
  - Highly social, fast paced

- **Importance of play for**
  - Peer interaction
  - Learning, cognitive flexibility

- **Approaches:**
  - Modeling, explicit teaching
  - Some differences ABA vs. developmental approaches
Behavioral issues

• **Teaching new and desired behaviors**
  – Discrete trial, peer mediation, naturalistic, pivotal response

• **Decrease problem behaviors**
  – Behaviors that interfere with learning
  – Methods:
    • Functional analysis, extinction, examination of antecedents and consequences
Organizational skills

- Social deficits failures in learning what to attend to
- Learning to learn skills
  - Lists, organizers, written/visual schedules
  - Software, assistive device
- Realistic, step-wise plan (goal directed)
  - Activities of daily life: homework, shopping
- Learning from experience, modifying strategies, multitasking
Adaptive skills & Generalization

- **Identify appropriate targets for intervention**
  - Use of Vineland and IQ levels
- **Generalization across settings, people, contexts at every opportunity**
- Do NOT teach skills in isolation
- Encourage functional independence and self-sufficiency
- Coordination with home/family
Occupational/Physical Therapy

- **Sensory issues/sensitivities**
  - Individualized program
  - Deal with sensory issues in appropriate ways

- **Encourage gross and fine motor skills**
  - Writing, keyboarding

- **Feeding/eating and oral-motor issues**
Implications for teaching: translating what we know to the classroom

- **Problems in organization**
  - Stepwise approach, consistency, routines, visual aids, sufficient time

- **Attentional problems**
  - Isolate relevant information, structure environment, support attention

- **Sequencing**
  - Visual cues, predictability, consistency
Implications for Teaching II

- **Gestalt learning style (learning in ‘chunks’)**
  - Present materials across settings, encourage generalization, family involvement

- **Visual learning style**
  - Use visual supports, give adequate time, limit verbal language, short simple language
Implications for Teaching III

- **Trouble with time and temporal sequences**
  - Visual supports, concrete instructions, adequate time, clear expectations, clear outcome and feedback

- **Trouble understanding Social Cues**
  - Exaggerate, pair gestures and words, teach in context, avoid overly elaborate language, explicit teaching
Issues in mainstreaming

• “Rebuttable Presumption” for inclusion
• Awareness of difficulties with generalization
• Use of TRAINED peers
• The effective peer mediated approaches are complicated to deliver but can be used with benefit
• The 3 WORST places to mainstream!
Developmental Strategies: variably emphasized in programs

- Awareness of usual developmental sequences and progressions as starting point
  - Be aware that these are sometimes violated!
- Use a child centered approach (child leads and adult follows) when possible
- Child’s preferences/motivations help guide program development
- Pay attention to the learning environment
Challenges for higher functioning children

- Unawareness of the extent and impact of social disabilities & lack of appreciation of the child’s disability: e.g., “too bright”, “too verbal”
- Variability of the child’s profile and presentation across settings
- Behavioral problems may take precedence over the child’s social disability -
  - “SEM”, “SED”, “ED”, “BD”
  - worst mismatch ➔ perfect misplacement
- Advocacy and services
Interventions in Asperger’s

- Use strengths to address weaknesses
  - Make things verbal
  - Explicit, explicit, explicit
  - Parts to whole learning
- Teach awareness of feelings, problem situations (Anxiety, novelty, depression) then teach explicit coping strategies
Interventions in Asperger’s

- Teach verbal scripts for coping
- Use behavioral approaches informed by an understanding of the child’s difficulties
- Have a proactive plan IN ADVANCE
- Teach conversation skills, self-monitoring
  - Explicit rules/guidelines
  - Self-correcting mechanisms ("Am I talking to much")
Academic Curriculum

- Don’t lose sight of ‘big picture’
- Evaluate curriculum in terms of benefits for positive learning, social skills, vocational skills
- Emphasis on strengths (it’s easy to make child feel bad!)
- Mentorship, specific projects
- Avoid inflexibility
- Foster motivation, organization, self-initiative, positive self-concept
The Snakes of the Battle of Gettysburg

Battlefield

Agkistrodon piscivorus

MAP

R. Lee
Educational Setting – for more able students

- Small, individualized program
- Communication specialist (despite good vocabulary!)
- Opportunities for social interaction in structured and supervised settings
- Acquisition of real life skills, anticipate troubles
- Willingness to adapt curriculum and be flexible (longer-term perspective)
- In-house coordinator of services: advocate, counselor, ‘safe address’ for the child in school
Fostering Social Connections: Teach Conversational Skills

- Topic selection, shifting
- Background information (presupposition / familiarity)
- What things can (& can’t) be discussed
- Conversational expectations (turn-taking, listening, building on what is said)
- Integrative cues
- Encourage self-monitoring and self-correction
  - Video/audio tape, prosody (register/volume)
- Appropriate initiating harder to teach than responding!
Behavioral Issues

- Maladaptive behaviors should not be automatically seen as willful or malicious.
- Always ask yourself WHY the child is behaving in some apparently maladaptive way.
- Maladaptive behaviors should be managed within the context of a comprehensive intervention program.
- Emphasis on disabilities contributing to undesirable behaviors.
- Management of anxiety, depression, rigidity, social inappropriateness.
Vocational Issues

- Address social disabilities, eccentricities, and anxiety-related vulnerabilities
  - Teach grooming, presentation, application letter writing, Practice job interview process
- College/vocational experience
  - facilitated by individual supervision/tutorial system
- Job Choice
  - Neuropsychologically informed and Socially less demanding
- Use resources (e.g., job coaches, transition agencies, parent support networks).
Family involvement/Support

- Family involved at every stage of process
- Importance for generalization of skills
- Support from parents/siblings and others
  - Support groups for parents/sibs
  - Basic information from school/professionals
  - Internet and other resources
Challenges for future

- Growing emphasis on evidence based interventions
- Challenges for health care-school integration
- Translation of research findings into classroom setting
  - Helping teachers understand nature of difficulties and relevance to school programs
  - Lacking social orientation students lose MUCH information
Summary

• **Outcome has improved**
  - Early detection and treatment
  - NOT every child gets better

• **A range of model programs available**

• **Issues in**
  - Translation into public school settings
  - Need for better evidence base
  - Need for better integration of research findings in school
Role of the Child Psychiatrist

- Roles vary depending on age of child and need of family
- Diagnosis
- Advocacy/collaboration
- Medications and medical issues
- Integration
- For more able students special issues
  - Vulnerability to some mental health problems
- Need for a flexible approach