


JAMES COPLAN, M.D.
Neurodevelopmental Pediatrician · Author · Speaker
Making Sense of Autistic Spectrum Disorders



**Why is this child different from all other children
(and what am I going to do about it?)**

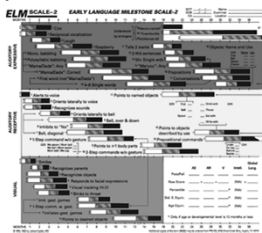
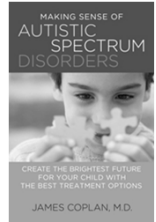
James Coplan, MD
Neurodevelopmental Pediatrics of the Main Line, PC
Rosemont, PA
www.drcoplan.com
Coplan@Drcoplan.com

Jewish Learning Venture™ **Yom Limmud**
A Conference for Early Childhood Educators

Best practices in Jewish Early Childhood Education
November 5, 2013

Disclosures

Dr. Coplan is author of *The Early Language Milestone Scale-2*, and *Making Sense of Autistic Spectrum Disorders: Create the brightest future for your child with the best treatment options*, and receives royalties on their sale.

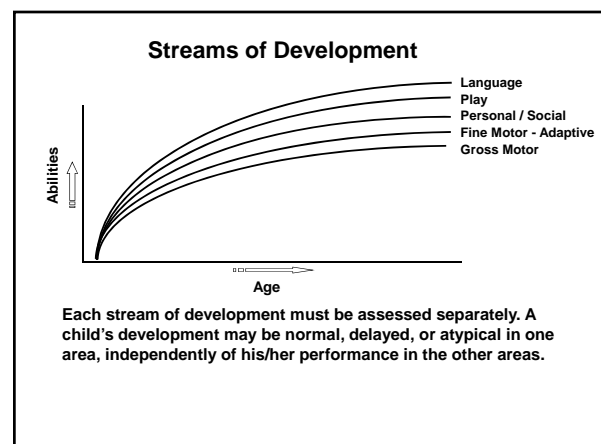
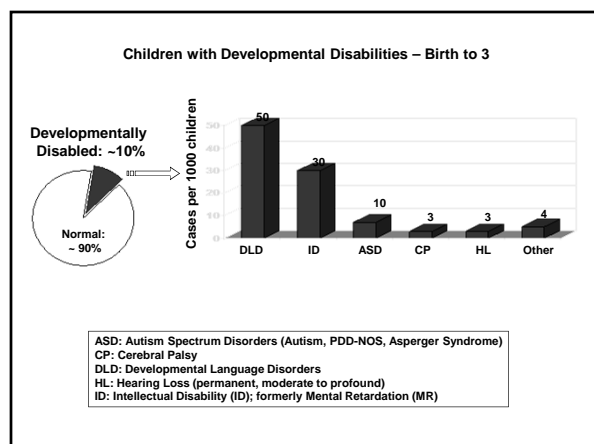
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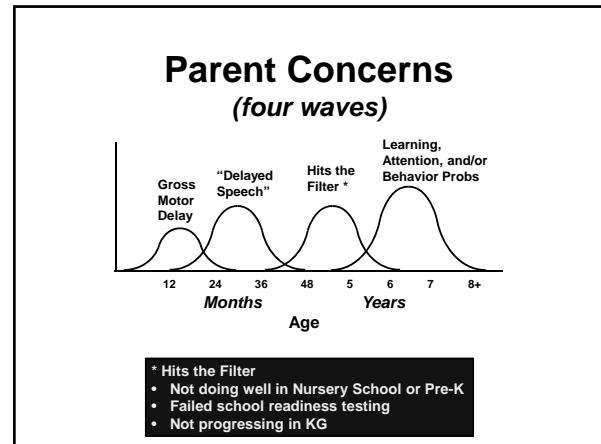
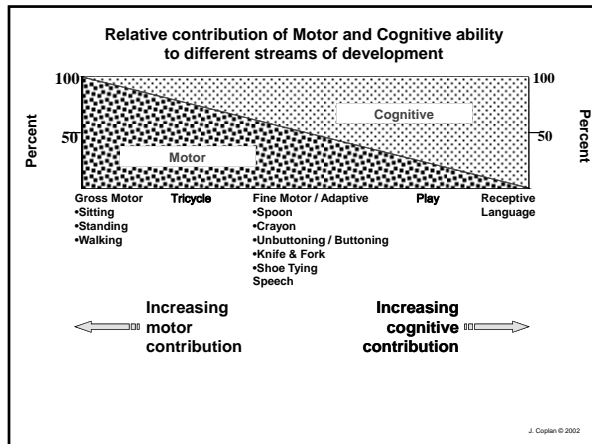
Outline

- Staff at early childhood centers are often the first individuals outside of a child's immediate family to come into close contact with a child.
- As such, early childhood staff are also frequently the first individuals to notice developmental differences in some children.

Outline

- This session will address the following topics:
 - Overview of normal child development
 - Commonly occurring developmental disorders
 - Speaking to parents





Motor Development

Motor Development

- Cephalocaudad ("head to tail") progression
 - Oromotor
 - Oculomotor
 - Fine Motor
 - Gross Motor
 - Sphincter control

Oromotor

- Suck & swallow (in utero)
- Independent swallow (6 mo)
- "Smacking" (9 mo)
- Chewing (12 mo)

Oculomotor

- Conjugate gaze in all fields by 6 mo
- Intermittent esotropia normal <6 mo
- Blind eyes → Turn
- Turned eyes → Blind
 - Strabismus → Loss of stereopsis
 - " → Amblyopia

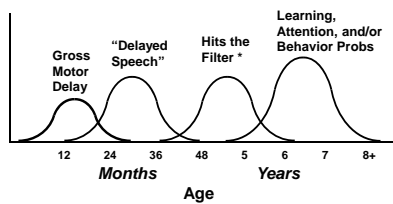
Fine Motor / Adaptive

- Midline hand play (3 mo)
- Reach / Grasp / Transfer (5-7 mo)
- Pincer (9-10)
- Index finger exploration (9-10)
- Tool Use (12-14)
 - Spoon
 - Crayon
- Hand preference (>12-18)

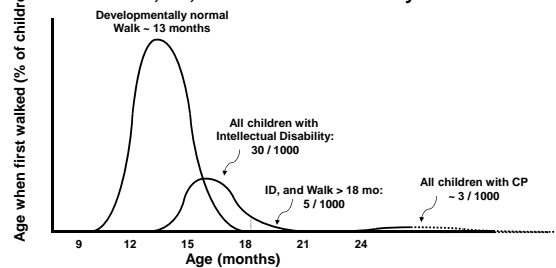
Gross Motor

- Righting
 - Head control (2-4 m)
 - Sitting (6-9 m)
 - Hands & Knees (9 m)
 - Standing (10-12 m)
- Walking (12 +)
- Stairs (18-24 m)
- Riding toys (“Flintstone”) 24 mo
- Tricycle (36 m)

Wave 1



ID, CP, and Gross Motor Delay



The most common cause of Gross Motor delay is *Intellectual Disability* (even though most children with Intellectual Disability have normal, or only mildly delayed Gross Motor development)

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Cognitive Development

- Language
- Problem Solving
- Adaptive Skills
- Play

Definitions

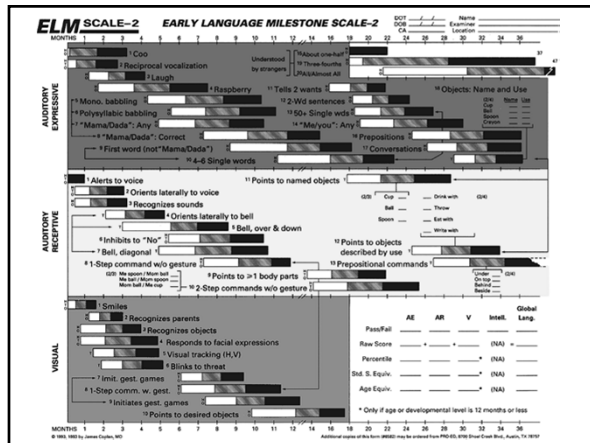
- **Language = A symbol system for the storage or exchange of information**
 - Spoken / Written languages
 - American Sign Language
 - Braille
 - Morse Code
 - Binary (computer) code

Definitions: Speech vs Language

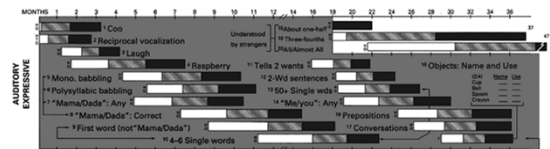
- **Components of Language**
 - Auditory Expressive
 - Auditory Receptive (listening comprehension)
 - Visual (gestures, Sign, reading & writing)

Language Acquisition

- Auditory Expressive
- Auditory Receptive
- Visual



Auditory Expressive



Pre-linguistic utterances

- **Cooing**
 - open vowels
- **Monosyllabic babbling**
 - ma, ba, da, ga
- **Polysyllabic babbling**
 - lalala, nanana, mamama, dadada, etc

Pre-linguistic utterances

- **Birth to ~ 9 mo: Universal**
 - Regardless of language of rearing
 - Regardless of ability to hear
- **After 9 mo:**
 - Hearing infants: emulate language of rearing
 - Deaf infants: Loss of babbling

Reciprocal Vocalization

- Newborn infants imitate facial models provided by adults – even before they have seen a human face



Figure 2.5. Stimulus faces of Andrew Meltzoff and a young mimic.

Meltzoff, Andrew N. and Moore, M. K. Imitation of facial and manual gestures by human neonates. *Science* 198:75-78, 1977



http://en.wikipedia.org/wiki/File:Makak_neonatal_imitation.png



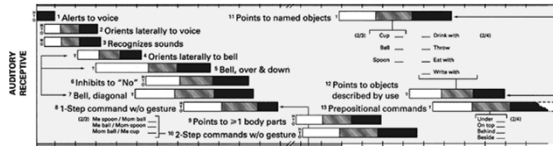
Aud. Expressive: Linguistic

- Prelinguistic utterances
- Reciprocal Vocalization
- Single words
 - Common objects; wants
- 2-word phrases
 - “Go store,” “Where’s daddy?” etc.
- Telegraphic speech
 - Omits tense endings, conjunctions, helper verbs
 - “Me want cookie!”
- Sentences

Auditory Expressive: Intelligibility (Clarity)

- “How much of your child’s speech can a stranger understand, if they don’t know in advance what your child is trying to say?”
- Rule of 4’s:
 - Age in Yrs / 4 = % intelligible
 - 1 yr: 1/4
 - 2 yr: 2/4
 - 3 yr: 3/4
 - 4 yr: 4/4

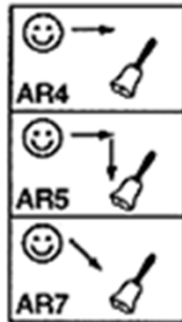
Auditory Receptive



Auditory Receptive: Pre-Linguistic

- Alerting to sound (0-1 mo)
- Recognition of voice / sound (~ 3 mo)
- Orienting to sound (5-9 mo)
- Recognizes own name (9 mo)
- Follows commands
 - Understands “No” (9 mo)
 - 1-step commands with gesture: (9 mo)
 - 1-step commands w/o gesture (12 mo)
 - 2-step commands (24 mo)
 - etc.

Orienting to sound



Auditory Receptive: Linguistic

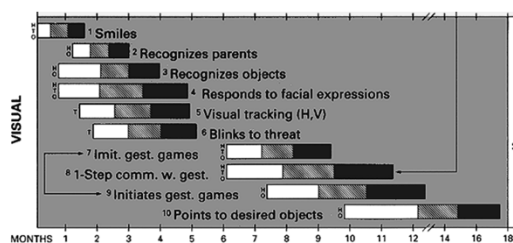
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Visual



Visual Language

- **Pre-Linguistic**
 - Eye contact
 - Social smile
 - Visual recognition
 - Gesture games
- **Points to desired objects**
- **Finger counting**
- **Sign**



Babbling in the manual mode: Evidence for the ontogeny of language.
Petitto LA and Marantette PF. Science 251; 1493-1496, 1991

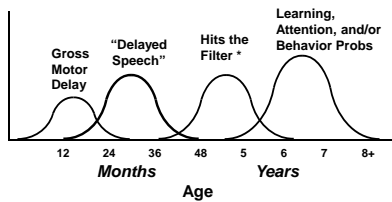
A simple mnemonic As easy as 1-2-3-4

Age	Auditory Expressive		Auditory Receptive	Visual
	Content	Intelligibility		
1 yr	1 single word	1/4	1-step commands	Index finger pointing
2 yr	2-wd phrases	2/4	2-step commands	---
30 mo	3-5 wd phrases	---	---	---
3 yr	Sentences	3/4	3-step commands	---
4 yr	---	4/4	---	---

Delayed Speech or Language

- **Most common developmental concern of childhood**
 - 5 to 10% of preschool children
 - May occur in isolation, but frequently indicative of broader underlying developmental disorder

Wave 2



Evaluation of the child with “Delayed Speech”

- Is it delayed speech, or delayed *language*?
- What is child’s cognitive level?
- Rule out hearing loss
- Any signs of oromotor impairment?
- Any signs of atypicality?

“Delayed Speech” vs. Delayed Language

Isolated speech delay (AE only)

- Oromotor issues
- Developmental Language disorder
- Hearing loss

Delayed Language (AE + AR & Visual)

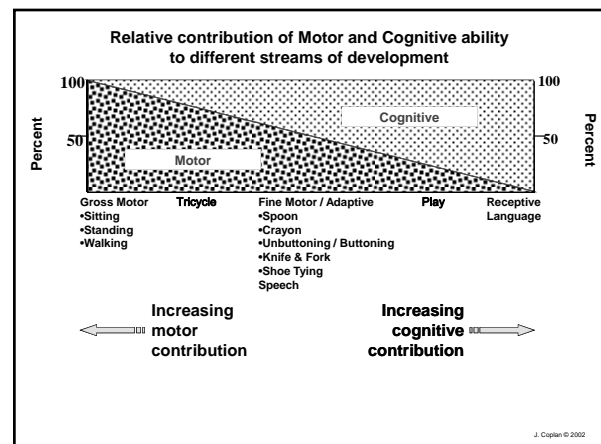
- Intellectual Disability
- Autism Spectrum Disorder

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Cognitive Level

- Intelligence
 - Language
 - Problem-Solving
 - Adaptive (self-care) skills
 - Play



Problem-Solving

1" Cubes

- Takes one: 6 m
- Transfers: 7 m
- Bangs two: 9 m
- Takes three: 10-12 m
- Copies:
 - 14 m
 - 18 m
 - 24-27 m

• Builds:

- 30-36 m
- 3 1/2 yr
- 4 yr
- 5 yr
- 6 yr

Problem-Solving

Crayon

- Mouths: < 9 m
- Makes marks 10-12 m
- Scribbles p demo: 14 m
- Scribbles spont: 16 m
- Alternates from stroke to scribble: 22 m
- 24-27 m

• Draws:

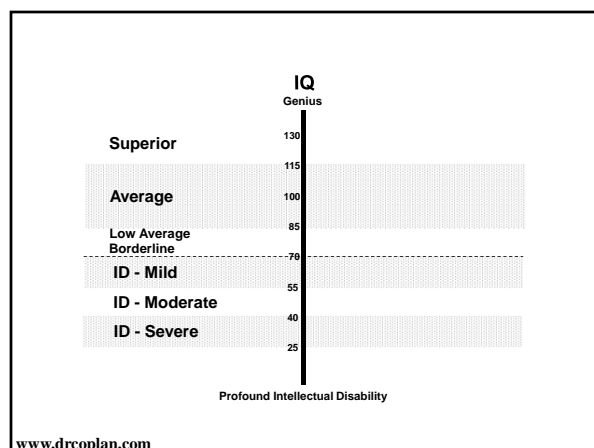
- 30-36 m
- 3 1/2 yr
- 4 yr
- 5 yr
- 6 yr

Fine Motor / Adaptive

- Tools (Spoon; ~ 12 mo)
- Fasteners
 - Unbuttoning, buttoning (33-36 mo)
 - Zippers, snaps (~ 48 mo)
 - Shoe tying (5 yr)
- Toilet training (less reliable)

Play

- Midline hand play (3 mo)
- Banging & Mouthing (7 - 9 mo)
- Casting (12 mo)
- Tools (crayon) ~ 14 mo
- Cause & Effect (14 to 16 mo & up)
- Imitative Play (24 mo)
- Imaginative Play (36 mo)
- Rule-based Play (48 mo)



Intellectual Disability

- Significantly subaverage general intelligence
 - Language (Aud Exp, Aud Recep, and Visual)
 - Problem-Solving
 - Object permanence, Tools, Cause & effect
- Delayed adaptive skills
 - Self-feeding, self-grooming, self-dressing
- Onset during the developmental period (birth to 5)

Evaluation of the child with “Delayed Speech”

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Hearing Loss

- **Rule #1: You cannot detect HL at the bedside**
- **Rule #2: When in doubt, refer to Rule #1**

Evaluation of the child with “Delayed Speech”

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Oromotor Impairment

- Abnormalities of Oromotor Function
 - “Poor feeder” – “Didn’t latch” to breast
 - Prolonged feedings
 - Excess drooling for age
 - Choking or Coughing on feeds
 - Nasal escape of liquids
 - ? Recurrent ear infections
 - Hypernasal speech
 - Unclear or limited speech

Evaluation of the child with “Delayed Speech”

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The NERVOUS CHILD

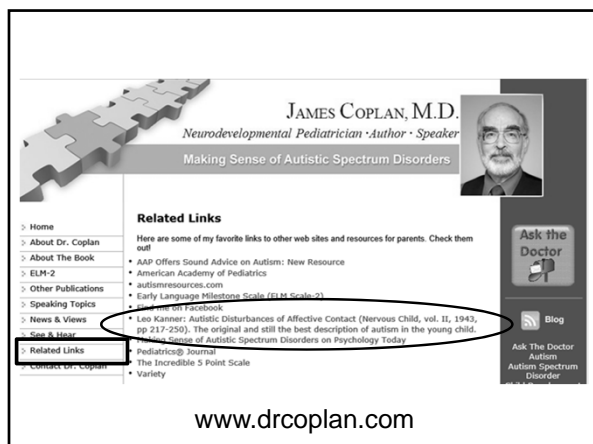
Quarterly Journal of Psychopathology, Psychotherapy,
Mental Hygiene, and Guidance of the Child

AUTISTIC DISTURBANCES OF AFFECTIVE CONTACT

By LEO KANNER

SINCE 1938, there have come to our attention a number of children whose condition differs so markedly and uniquely from anything reported so far, that each case merits—and, I hope, will eventually receive—a detailed consideration of its fascinating peculiarities. In this place, the limitations neces-

Kanner, L. Autistic Disturbances of Affective Contact; 1943
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Related Links
Here are some of my favorite links to other web sites and resources for parents. Check them out!

- AAP Offers Sound Advice on Autism: New Resource
- American Academy of Pediatrics
- autismresources.com
- Early Language Milestone Scale (ELMS Scale, 9)
- Leo Kanner: Autistic Disturbances of Affective Contact (Nervous Child, vol. II, 1943, pp 217-250). The original and still the best description of autism in the young child.
- Making Sense of Autistic Spectrum Disorders on Psychology Today
- Pediatrician's Journal
- The Incredible 5 Point Scale
- Variety

www.drcoplan.com

Impaired Socialization

- “Aloof”
- “Withdrawn”
- Limited eye contact
- Indifferent to others

www.drcoplan.com

Impaired Socialization “In his own little world”



Age: 22 months. Nonverbal. CARS=44.

www.drcoplan.com

MRN 11-0741

Idiosyncratic Language

- Echolalia
- Delayed Echolalia
- Pronoun Reversal
- Odd inflection

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Repetitious Behaviors

- Rigid Routines
- Stereotypies
- Lining up / spinning objects

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Unusual sensory responses

- “Petrified of vacuum cleaner”
- Drawn to, or afraid of, spinning objects
- Mouthing behavior
- Ingesting inedible materials
- Food selectivity

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Social Interaction

“Our child is *among* us, but not *with* us.”

Parent of a 4 year old with ASD

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Clinical Domain ↓	Decreasing Atypicality / Increasing Age ⇒		
	Severe / Youngest	Moderate / Older	Mild / Older
1. Social Interaction	<ul style="list-style-type: none"> •No eye contact •No physical affection •Cannot be engaged in imitative tasks 	<ul style="list-style-type: none"> •Intermittent eye contact •Seeks affection "on his own terms" •May invade personal space of others (not true affection) •Engageable in imitative tasks, although with difficulty 	<ul style="list-style-type: none"> •Good eye contact •Shows interest in others, but often does not know how to join in •Easily engaged in imitative activities •Rigid; has difficulty if perceives that rules have been broken •Difficulty with "Theory of Mind" tasks

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Theory of Mind

- Realization that other people have an internal mental & emotional state, different from one's own
- Ability to gauge the internal mental & emotional state of others
 - Able to infer motives & predict behavior of others
 - Empathy
 - Humor

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What's happening in this picture?



What's happening in this picture?



"The man is drowning."

What's happening in this picture?



"The man is swimming, and the car is about to fall on him."

What's happening in this picture?



What's happening in this picture?



"The girl is screaming."

What's happening in this picture?



"That girl is trying to steal the other girl's book."

Language

**"My child talks, but he doesn't
communicate."**

Mother of a 3 year old with autism

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Language Deficits in ASD

- **Pragmatics:** Use of language for the purpose of social interaction
 - Framing
 - Topic maintenance
 - Conversational repair
 - Impaired Pragmatics:
 - Nonverbal
 - Echolalia, delayed echolalia
 - Off-topic responses
 - Person talks “at” rather than “with” partner

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Quantifying severity of ASD - 2

Clinical Domain ↓	Decreasing Atypicality / Increasing Age ⇒		
	Severe / Youngest	Moderate / Older	Mild / Older
2. Language •Pragmatics •Prosody	<ul style="list-style-type: none"> •Nonverbal •No response to voice; may “act deaf” •No use of gestures as a means of compensating for absence of spoken language •May use “hand-over-hand” to guide caregiver to desired objects 	<ul style="list-style-type: none"> •Echolalia, Delayed echolalia •Verbal Perseveration •Odd Inflection (stilted, sing-song, ↑↓ volume) •May use stock phrases in an attempt to communicate •Makes use of visual modalities (symbol cards; sign language) 	<ul style="list-style-type: none"> •Speaks fluently, but literal; lacks understanding of verbal nuance •Difficulty with Pragmatics (framing, turn-taking, topic maintenance; conversational repair; talks “at” rather than “with” others) and Theory of Mind language tasks (fibbing; humor, verbal make-believe)

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Repetitious Behavior

“My child has over-attention deficit disorder.”

Father of a 10 year old with autism and perseverative behavior

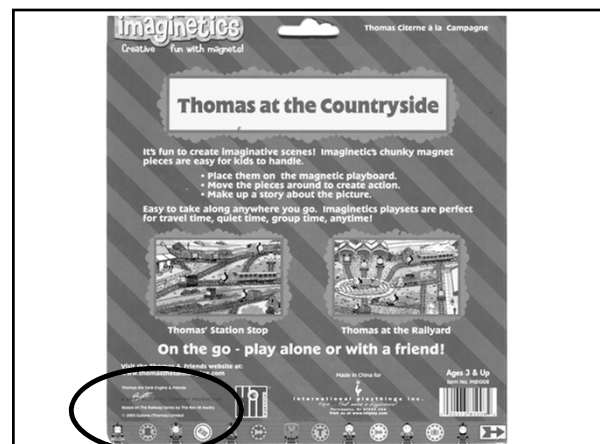
Quantifying severity of ASD - 3

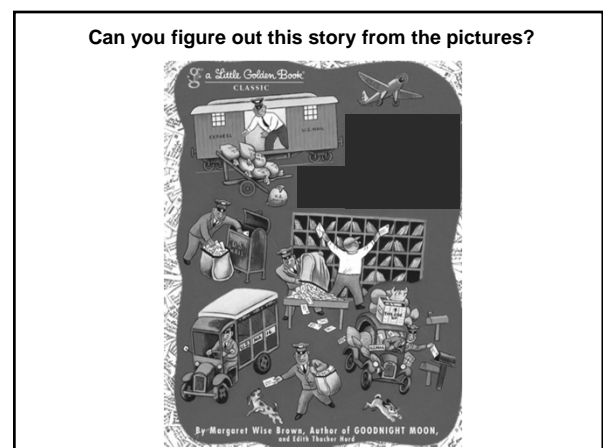
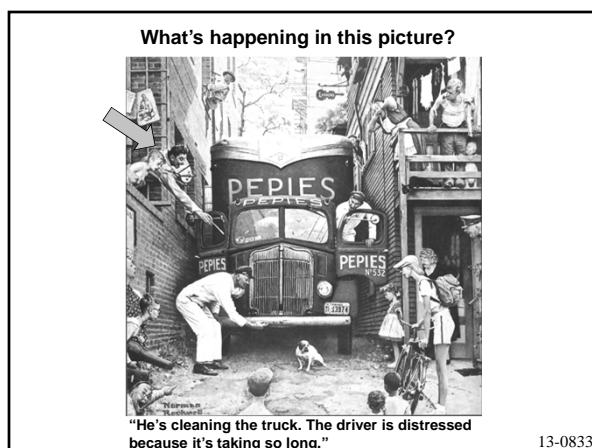
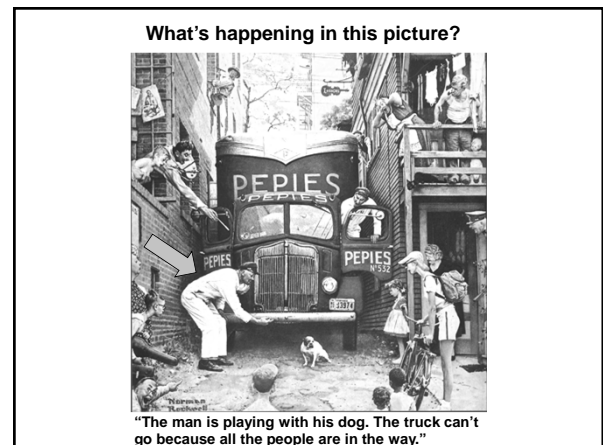
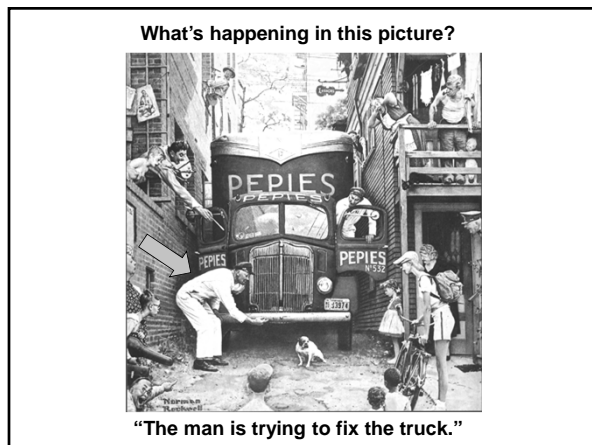
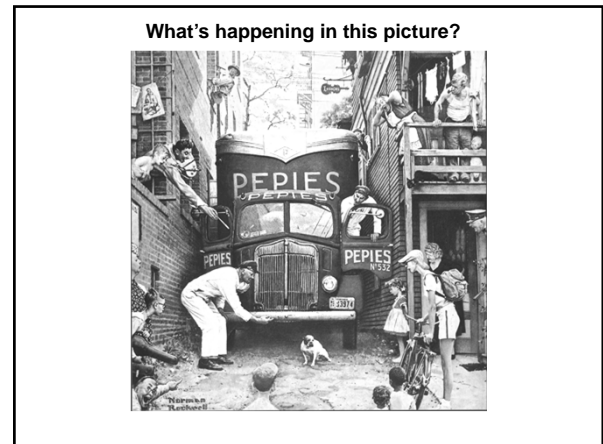
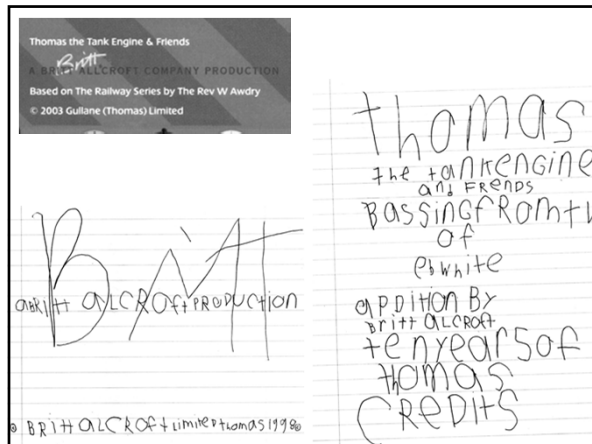
Clinical Domain ↓	Decreasing Atypicality / Increasing Age ⇒		
	Severe / Youngest	Moderate / Older	Mild / Older
3. Repetitious Behaviors <i>Cognitive</i>	<ul style="list-style-type: none"> •Extreme distress if routines are changed or when required to transition from one task to another •Fascination with odd objects (tags, wheels, fans, etc.) 	<ul style="list-style-type: none"> • Same, but with diminishing level of distress; able to accept verbal preparation for changes in routine • Complex repetitious play (lining up objects, memorizes numbers, letters, etc) 	<ul style="list-style-type: none"> • May demonstrate conscious awareness of preference for routines; easier to self-modulate •Play remains repetitious, but repetitive quality is more subtle; preoccupation with arcane topics •Problems with Central Coherence
<i>Motoric</i>	<ul style="list-style-type: none"> •Frequent, intense stereotypical movements (flapping, spinning, toe-walking, finger twiddling) 	<ul style="list-style-type: none"> • Motor stereotypies occasional; may re-emerge when excited 	<ul style="list-style-type: none"> • Motor stereotypies rare or absent

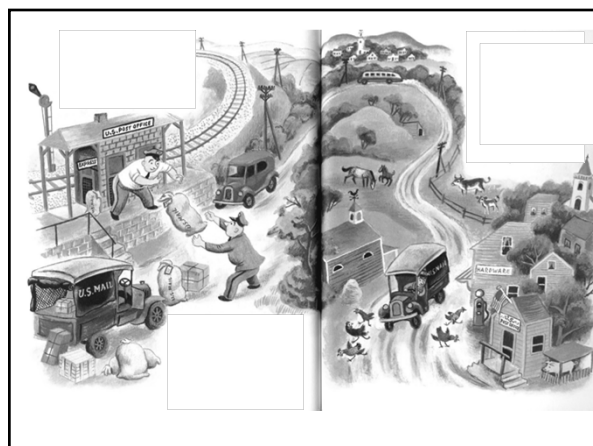
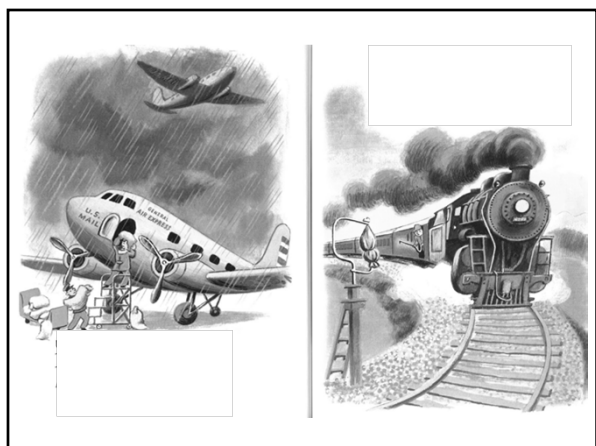
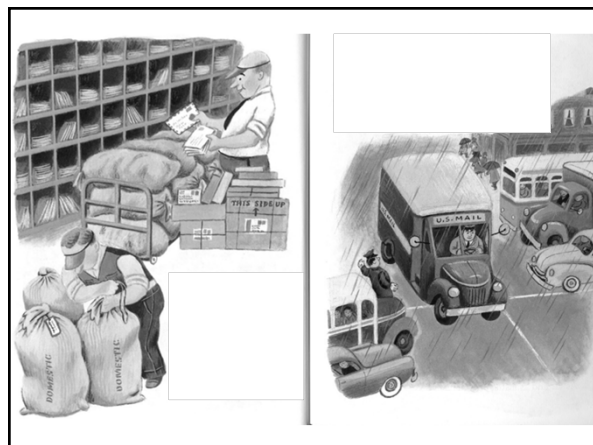
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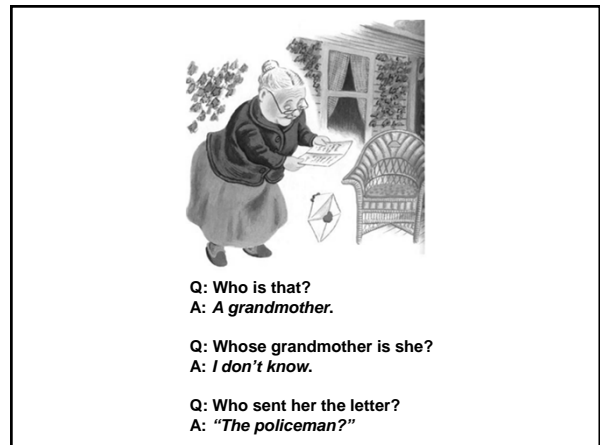


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Quantifying severity of ASD - 4

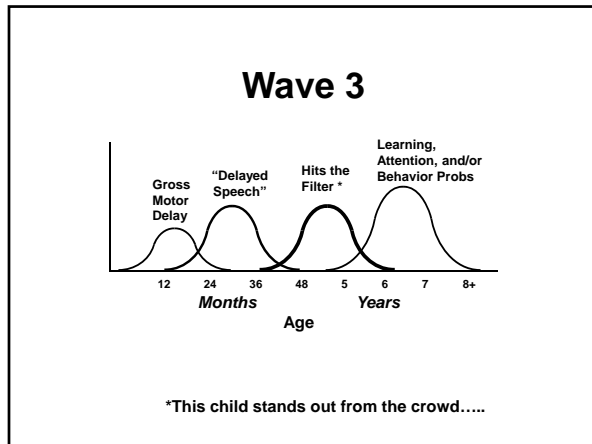
Clinical Domain ↓	Decreasing Atypicality / Increasing Age ⇒		
	Severe / Youngest	Moderate / Older	Mild / Older
4. Sensorimotor: • Intense aversion or attraction to specific classes of stimuli • Clumsiness	<ul style="list-style-type: none"> • Auditory: Hyperacusis, covers ears, acts deaf • Visual: self-stimulation (lights/patterns); looks at objects from odd angles • Tactile: rubbing, licking, mouthing, deep pressure; averse to light touch • Olfactory: Sniffing • Extreme food selectivity • Pain threshold • Fears: Heightened / blunted 	Same, but diminishing intensity	Same, but diminishing intensity

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Abnormal responses to sensory stimuli

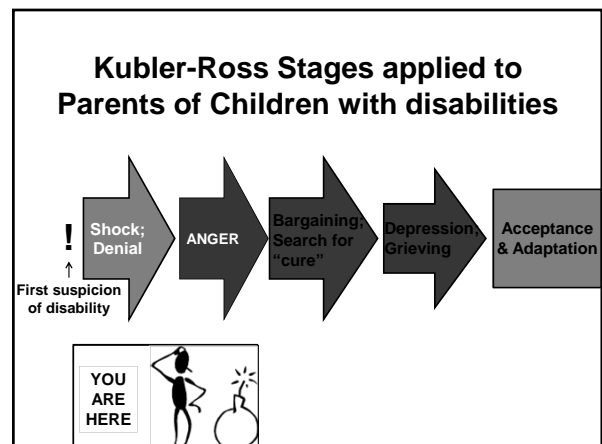
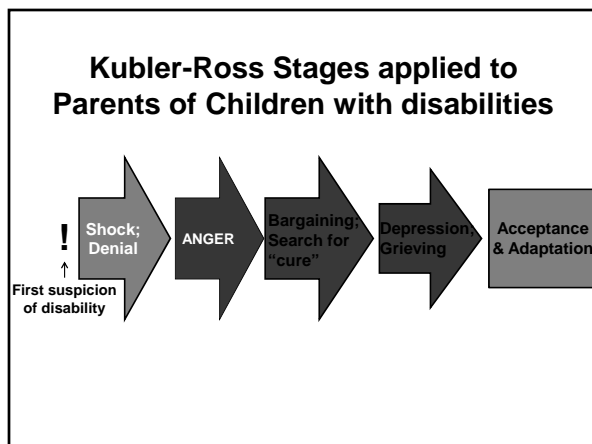
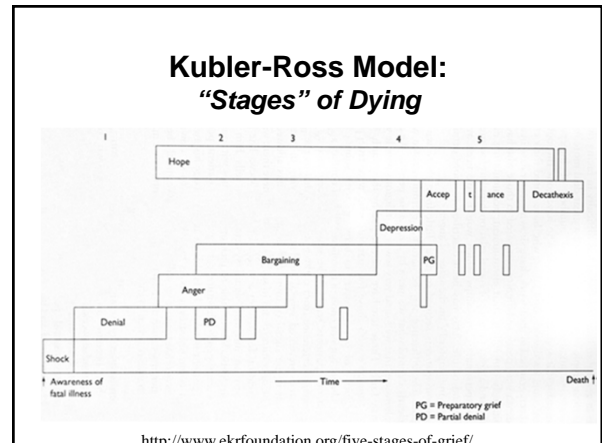
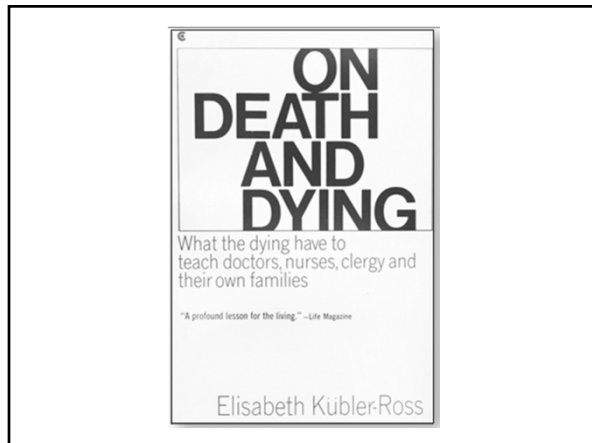


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I see a problem...

- Now what?



Talking to parents

- **Get backup**
 - Speak to your director
 - Or, if you are the director: Speak to all of your staff who have knowledge of the child

Talking to parents

- **If possible, meet with both parents**
 - “This is important”
 - Promotes family function
 - Don’t leave dad out of the picture
 - One parent (usually – mom) may already be concerned
 - Go to www.drcoplan.com and view webinar “Family Function in children with ASD” (link is on home page)

Family Function

- The unit of treatment is the family
- Fostering the family’s ability to move forward is your #1 goal. The child’s parents & siblings will be involved long after you have left the stage.

JAMES COPLAN, M.D.
Neurodevelopmental Pediatrician · Author · Speaker
Making Sense of Autistic Spectrum Disorders

www.drcoplan.com

See & Hear Dr Coplan...

rethink

Family Mental Health is a key ingredient to outcome for all children, but especially for the child with developmental disability. Dr Coplan discusses “Family Mental Health – The Springboard to Success for the Child with ASD.” He addresses the importance of family mental health, the advantages of a family-centered approach and how it contributes to success for children with ASD.

Family Triangles

Parent #1 · Parent #2 · Child with Disability

Click here to view the webinar
For a copy of Dr Coplan’s presentation click here

Talking to parents

- **Test the water**
 - “I was wondering if either of you have any questions or concerns about [child’s name] development?”
 - If you adhered to Suggestion #1, now you will probably get different answers from mom & dad
 - “What do you think about what your [husband / wife] just said?”

Talking to parents

- **Take the plunge**
 - [I / My staff and I] would like to check our perceptions with you about a few things. Have you ever noticed / had any concerns about....?
 - Instead of *informing*, you are framing a question for the parents to address
 - Parents need to feel that they have been *listened to*. This is more important than “informing” them.

Talking to parents

- If this is their first intimation of a problem: **Be prepared...**
 - Shock / Denial / Anger
 - Initially, these are *protective responses*
- **Be an active listener:**
 - Respect and validate the parents' feelings
- **Remain calm**
 - No need to defend your professionalism

Talking to parents

- **Offer resources**
 - Developmental
 - **Early Intervention**
 - Google: “Early Intervention PA”
 - Medical
 - **Refer back to primary care pediatrician**
 - **Developmental Pediatrician**
 - See “What is a neurodevelopmental pediatrician?” (www.drcoplan.com)

Goals of Developmental Pediatrics:

- **Optimize developmental outcome**
 - Developmental Diagnosis
 - Etiologic Diagnosis
 - Associated Medical Conditions
 - Formulation of Therapy Program
 - Prognosis / Iterative re-evaluation
- **Optimize Family Function**



Talking to parents

- **Offer to meet again**
 - “I am the first to admit that it’s hard to make predictions in young children, but I also know that the earlier something is identified, the better the outcome.”
 - I would be happy to meet with you again in a few months to re-visit these questions.

Talking to parents

- **Be prepared for a certain number of “walkouts”**
 - Some parents do not accept the presence of a problem until after their child has been “flagged” by 2 or 3 different preschool programs...
 - Only then to parents realize that the problem is intrinsic to the child, not the school’s ability “to handle my child”

Talking to parents

- It is better to speak up, and risk losing a pupil, than it is to remain silent and “hope for the best.”
 - *You shall not hate your neighbor in your heart; you shall reprove your fellow and not bear a sin because of him.” (Leviticus 19:17)*



The screenshot shows the homepage of Dr. James Coplan's website. At the top, it reads "JAMES COPLAN, M.D. Neurodevelopmental Pediatrician · Author · Speaker" and "Making Sense of Autistic Spectrum Disorders". A navigation menu on the left includes links to Home, About Dr. Coplan, About The Book, ELM-2, Other Publications, Speaking Topics, News & Views, See & Hear, Related Links, and Contact Dr. Coplan. The main content area features a "Welcome" message, a bio of Dr. Coplan as an internationally recognized clinician, author, and public speaker, and a photo of him with a child. On the right, there is a "Ask the Doctor" section with a blog icon and a link to "Ask The Doctor Autism Spectrum Disorder". At the bottom, it says "Thank you." followed by the website URL "www.drcoplan.com" and email "Coplan@drcoplan.com".