

The Annual General Pediatric Review & Self Assessment



DEVELOPMENT

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Disclosure of relevant relationships

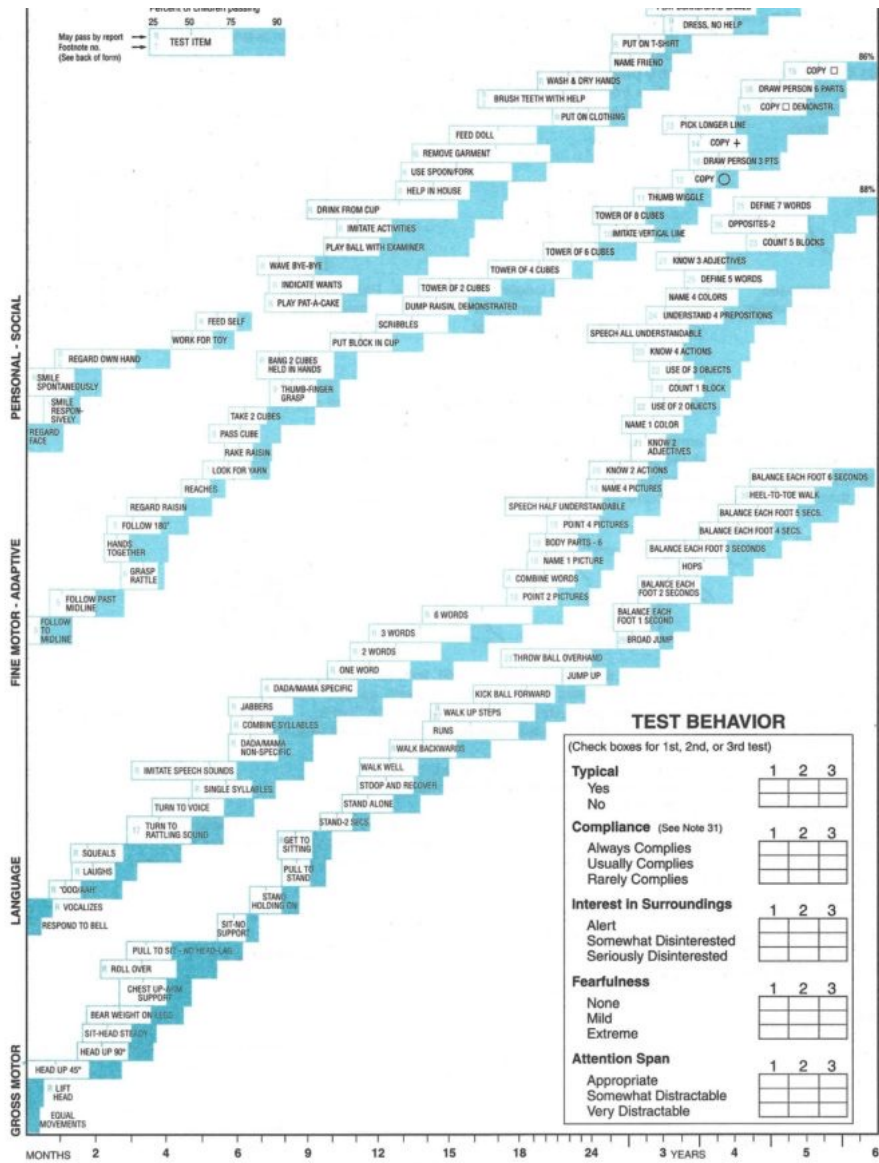
Dr. Fierro-Cobas has not had (in the past 24 months) any conflicts of interest or relevant financial relationship with the manufacturers of products or services that will be discussed in this presentation.

This presentation and clinical recommendations are supported with the “best available evidence” from medical literature.

Dr. Fierro-Cobas does not intend to discuss an unapproved/investigative use of a commercial product/device in this presentation.

PASS

EXAMS



Delay

Deviation or deviance

Dissociation



How old is the child?



How old is the child?

- a) 2 months
- b) 4 months
- c) 6 months
- d) 9 months

Gross motor



Principles of Physical development

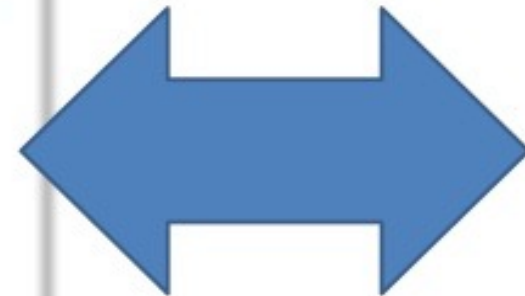
cephalo-caudal



Downwards – head
to toe



proximodistal



Outwards – arms
and legs, then hands
and feet

Reflex	Extinguished (m)
Stepping	1-4
Moro	2-6
Rooting	3-4
Palmar grasp	3-6
Tonic neck	5-7
Plantar grasp	9-12
Extensor plantar	9-24



Reflex	Develops (m)
Head righting	4
Lateral propping	6
Parachute	8-9

Postural reflexes



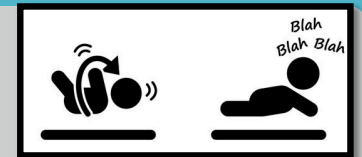
2 months: lifts head when prone



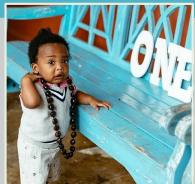
4 months: lifts chest on wrists when prone holds objects



6 months: sits tripoded, rolls supine to prone



9 months: sits without support, crawls, parachute reflex



12 months: pulls to stand, stands without support, cruises





15 months: Takes a few steps on his own, squats



18 months: Walks without holding



24 months: walks upstairs holding and leading with 1 foot, kicks a ball, runs



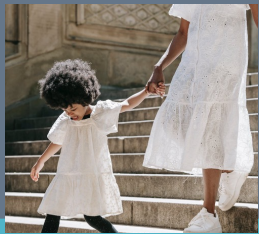
30 months: jumps off the ground with both feet



3 years: pedals tricycle, broad jump, balances in 1 foot 3 seconds



4 years: stands on one foot, walks up stairs without rail, catches a ball



5 years: walks downstairs holding a rail alternating feet, hops in one foot, skips



6 years: bicycle without training wheels



How old is the child?

- A) 1 year old
- B) 2 year old
- C) 3 year old
- D) 4 year old



Language

Language	Expressive	Receptive
2 months	Cooing	Smiling, locates voice
6 months	Babbling	Laughs, answers to voice
9 months	"mama" nonspecific	Recognize people
12 months	"mama", "dada" + 1	Follows simple commands with signs
15 months	3-5 words Points (protoimperative)	Follows simple commands without signs
18 months	10-25 words	Points (protodeclarative)
24 months	50 words & 2-word phrases	Follows 2 step commands
36 months	3 words phrases & 75% clear	Follows 3 step commands
48 months	100 % understandable	Understands a story

1 y

- 1 word
- Follows 1 step command

2 y

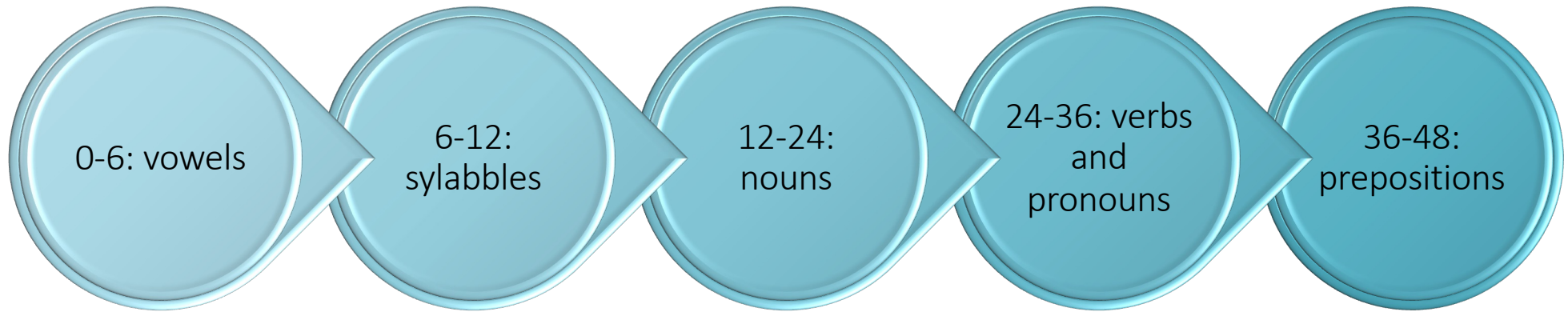
- 2 words phrase
- Follows 2 step commands
- 2/4 understandable

3 y

- 3 words phrases
- Follows 3 step commands
- 3/4 understandable

4 y

- 4 or more words sentence
- 4/4 understandable



Evolution of language

3 year old

Two back-and-forth exchanges in **conversation**.
Asks **“who,” “what,” or “where”** questions

Says **what action is happening** in a picture or book when asked, like
“running,” “eating,” or “playing”
Says first name, when asked



4 year old

Says sentences with four or more words
Asks **“why”** questions. Talks about at least one thing that happened
during his day, like **“I played soccer.”**

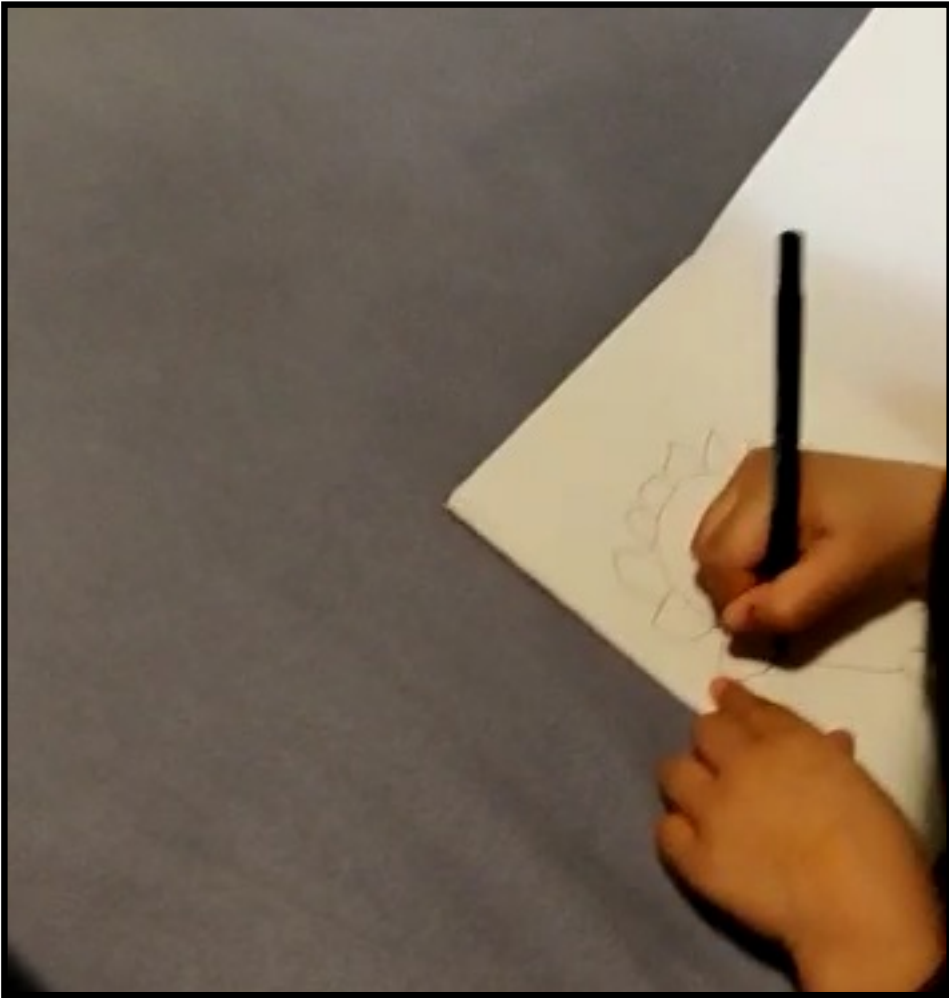
Answers simple questions like **“What is a coat for?”** or **“What is a
crayon for?”**



5 year old

Tells a story she heard or made up with at least two events. Keeps a
conversation going with more than three back-and-forth exchanges.
Uses or recognizes simple rhymes (bat-cat, ball-tall)

Answers **simple questions about a book or story** after you read or tell it
to him



How old is the child?

- a) 2 y/o
- b) 3 y/o
- c) 4 y/o
- d) 5 y/o

Fine motor





2 months: Opens hands briefly



4 months: Hands unfisted. Bidextrous reach. Uses her arm to swing at toys. Holds a toy when you put it in his hand. Brings hands to mouth and midline.



6 months: Unidextrous reach. Bangs objects at table. Transfers.



9 months: Bangs objects together. Probes with forefingers. “Rakes”. Immature pincer grasp.



12 months: Mature pincer grasp. Releases intentionally (block in cup). Drinks from opened cup with help.



15 months: Uses fingers to feed herself some food. Places block inside and outside container.



18 months: Scribbles. Drinks from opened cup without help. Feeds self with fingers. Tries to use a spoon.



24 months: Eats with a spoon, stacks 2 objects.



30 months: Uses hands to twist things. Takes some clothes off by himself.



3 years: Strings items together. Puts on some clothes by himself. Uses a fork



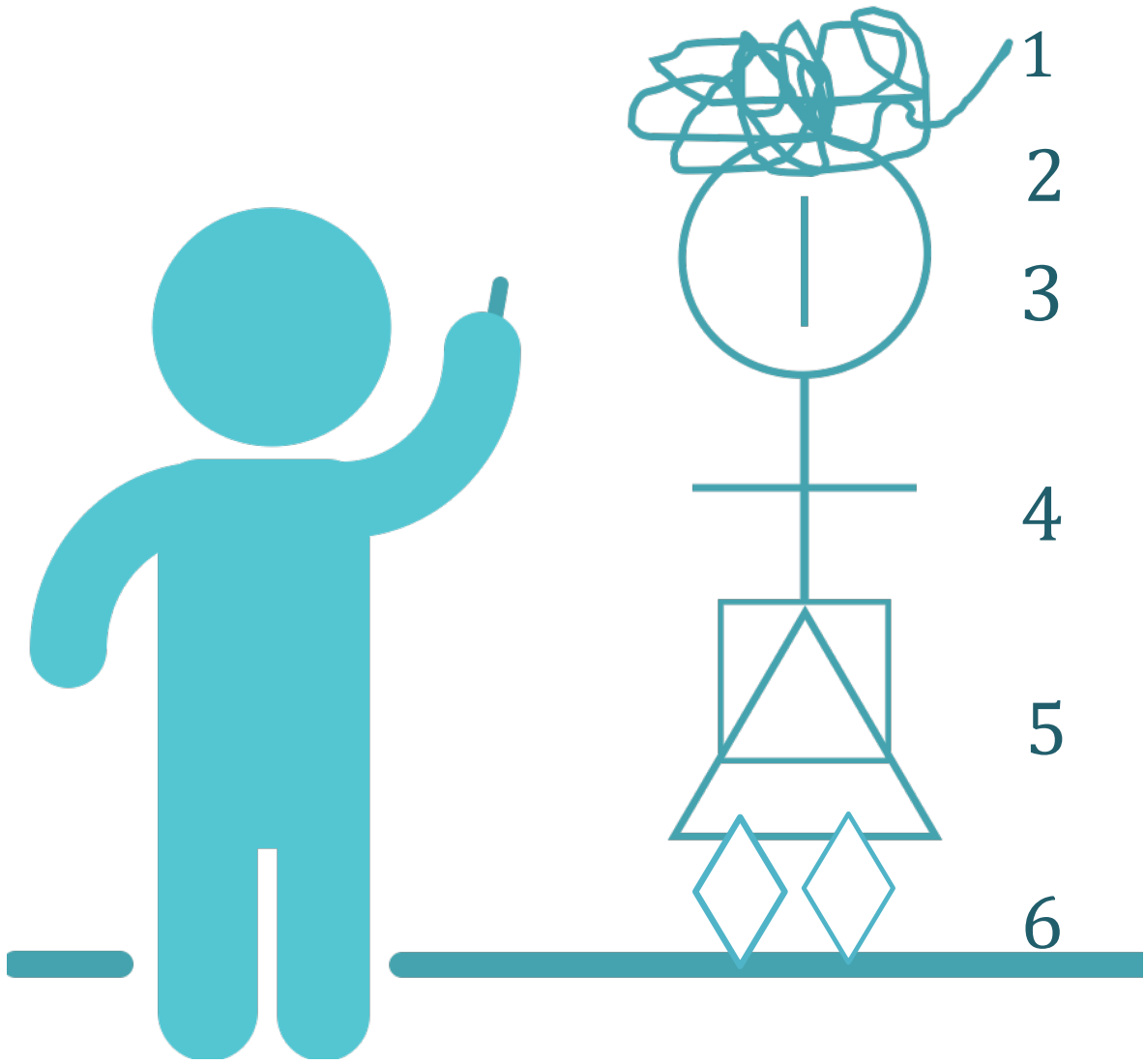
4 years: Serves himself food. Unbuttons. Holds crayon or pencil between fingers and thumb.



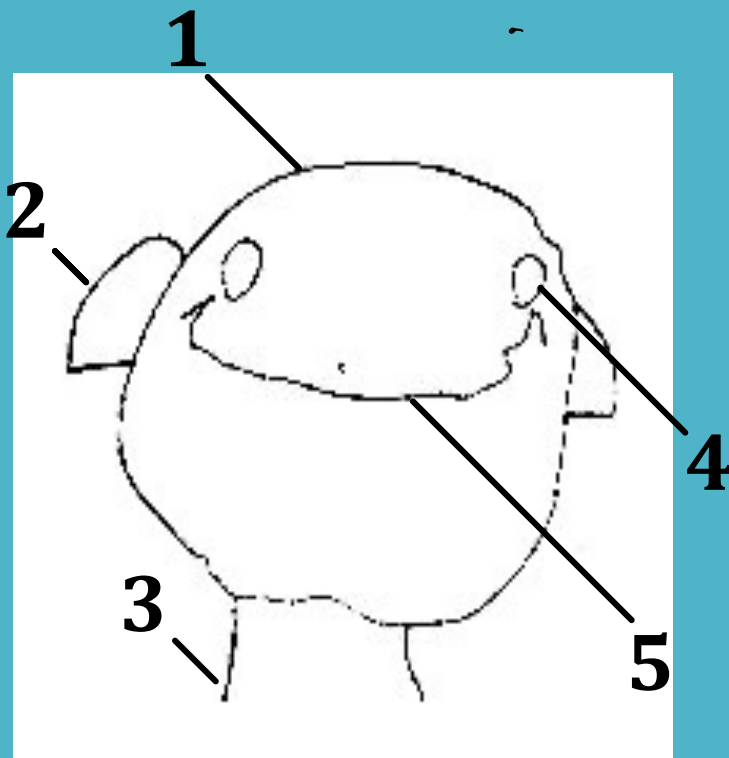
5 years: Buttons some buttons. Writes first name.



6 years: Writes first and last names. Ties shoelaces



$$\begin{array}{r} 3 \\ 5/4 \\ \hline 4 \quad \frac{1}{4} \end{array} +$$



MONITORING

SURVEILLANCE

Done in every well check up visit

Flexible, longitudinal, continuous and cumulative

Addresses concerns

Obtains and documents developmental history

Identifies risks and strengths

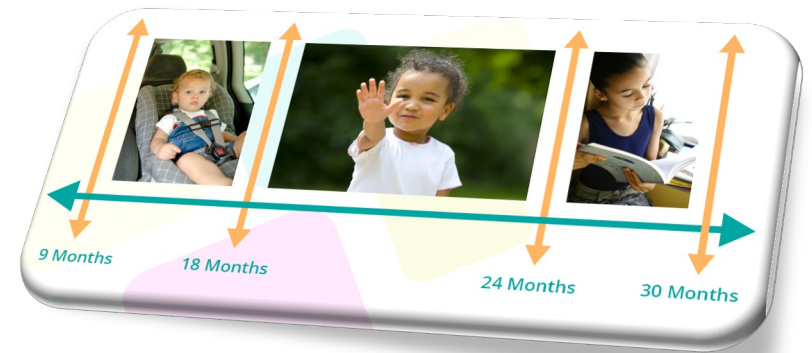
SCREENING

Done at particular encounters

Uses a validated instrument

Identifies an area of concern

Does not result in a diagnosis



AAP and USTFPS recommendations:

Surveillance each well check up

Screening at 9, 18, and 30 m or if concerns at surveillance

ASD screening at 18 and 24 m

Postpartum depression screening at 1, 2, 4, and 6 m

Depression screening from 12 y/o

Screenings

Developmental

ASQ
PEDS
SWYC

Autism

CSBS
MCHAT-R
CAST
SCQ

Behavior

ASQ-SE
BITSEA
CBCL
PSC
SDQ

Mental health

PHQ-9
PHQ-2
Vanderbilt
SCARED
ADHD-IV

	Cerebral Palsy	Intellectual Disability	Language disorder	Autism
Gross motor	DQ< 50	Normal or delayed	Normal or delayed	Normal or delayed
Language	Normal or delayed	DQ<70	Delayed	Delayed
Fine motor	Normal or delayed	DQ<70	Normal	Normal or delayed
Adaptive	Normal or delayed	Delayed	Normal	Normal or delayed
Social	Normal or delayed	Normal or delayed	Normal or delayed	Delayed

Intellectual Developmental Disorder

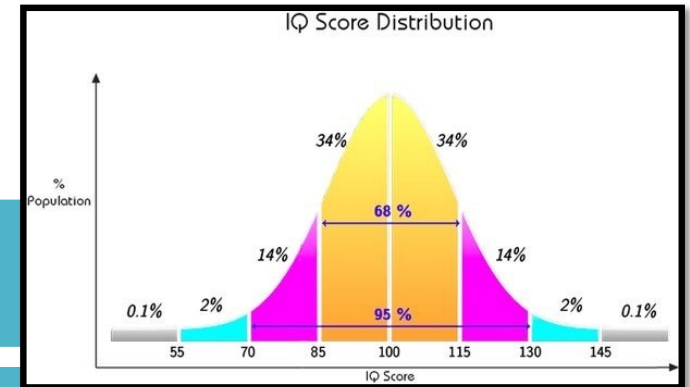
Deficits in Intellectual functions

Deficit in Adaptive functioning

Onset during the developmental period

Severity: mild, moderate, severe

Specifier: medical, genetic or environmental



Etiology

Infectious:

pre/perinatal:
TORCH, HIV

Postnatal: HIV,
meningitis,
encephalitis

Genetic:

Single gene defect:
Fragile X

Chromosomal:
Trisomy 21

Neurocutaneous
disorders: TS

Metabolic:

Prenatal: Inborn
Errors of metabolism
(Tay Sachs, Lesch
Nyhan Syndrome ,
PKU

Postnatal:
hypothyroidism,
kernicterus,
chronic
hypoglycemia

Neurologic insults:

CNS anomalies,
IVH,
Periventricular
leukomalacia,
Hypoxic-ischemic
encephalopathy
brain tumor

Toxins:

Prenatal: Alcohol,
anticonvulsants

Postnatal: lead,
mercury

ASD Diagnostic criteria:

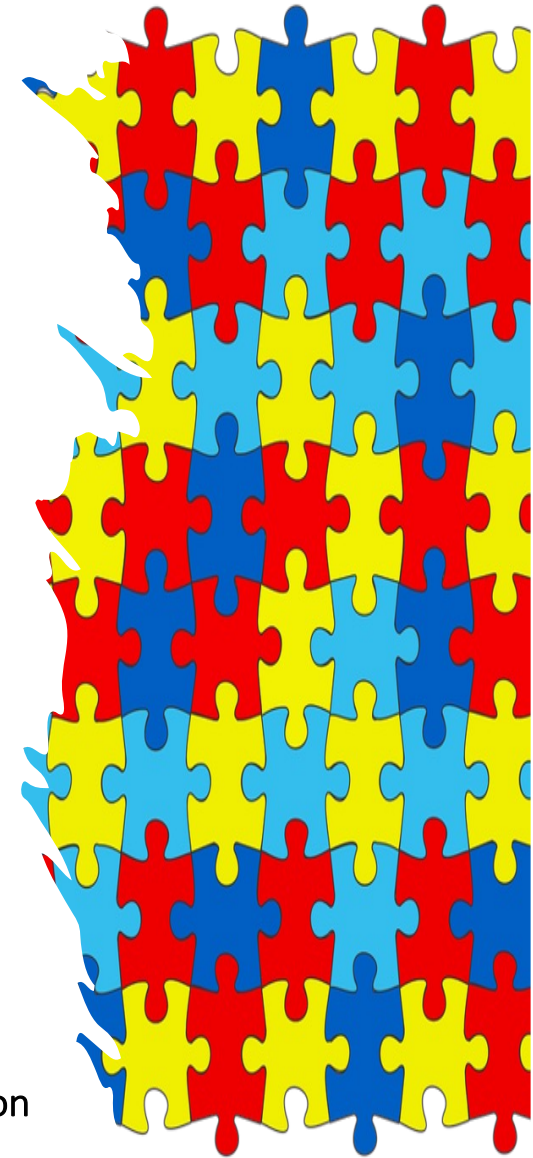
Deficits in communication and social interaction

- Social-emotional reciprocity
- Non-verbal communication
- Developing, maintaining or understanding relationships

Restricted, repetitive patterns of behavior, interests, or activities

- Stereotyped movements, use of objects or speech
- Difficulties with transitions
- Restricted interests
- Hypo or hyperreactivity to sensory input

Presents in early development, causes significant impairment, no other better explanation





1. Squirms and fidgets
2. Cannot stay seated
3. Runs/climbs
4. On the go/driven by motor
5. Talks excessively
6. Difficulty with quiet activities
7. Blurts out answers
8. Interrupts
9. Difficulty waiting turn

1. Carelessness
2. Difficulty sustaining attention
3. Trouble following through
4. Avoids tasks requiring mental effort
5. Difficulty organizing
6. Loses important items
7. Easily distracted
8. Forgetful
9. Doesn't appear to listen

6 + symptoms

> 6 months

before 12 y

Significant impairment

> 2 settings

Interventions

Parenting behavioral training

- PCIT
- Triple P
- New Forest
- Incredible Years

Behavioral classroom management

- Plan 504
- IEP
- Skills training

Medications

- Stimulants
- Non-Stimulants

Comorbid conditions

Condition	Coexisting with ADHD	Non-ADHD population
Oppositional Defiant Disorder	35%	2-16%
Conduct disorder	25%	6-16% (males);2-9% (females)
Anxiety disorder	25%	5-10%
Depressive disorder	18%	2% (child) , 5% (adolescent)
Learning disability	51% boys, 47% girls	14.5% boys, 7.7% girls

Learning disorders

Difficulties in at least one of these aspects for more than 6 months, despite the provision of extra help:

- Reading
- Understanding what is read
- Spelling
- Written expression
- Understanding number concepts, number facts or calculation
- Mathematical reasoning

The affected academic skills are substantially and quantifiably below potential

Not due to other factors

Onset during school age



Risk factors for LD:

Family Hx of LD

Prematurity

Cyanotic congenital heart disease

Toxic stress

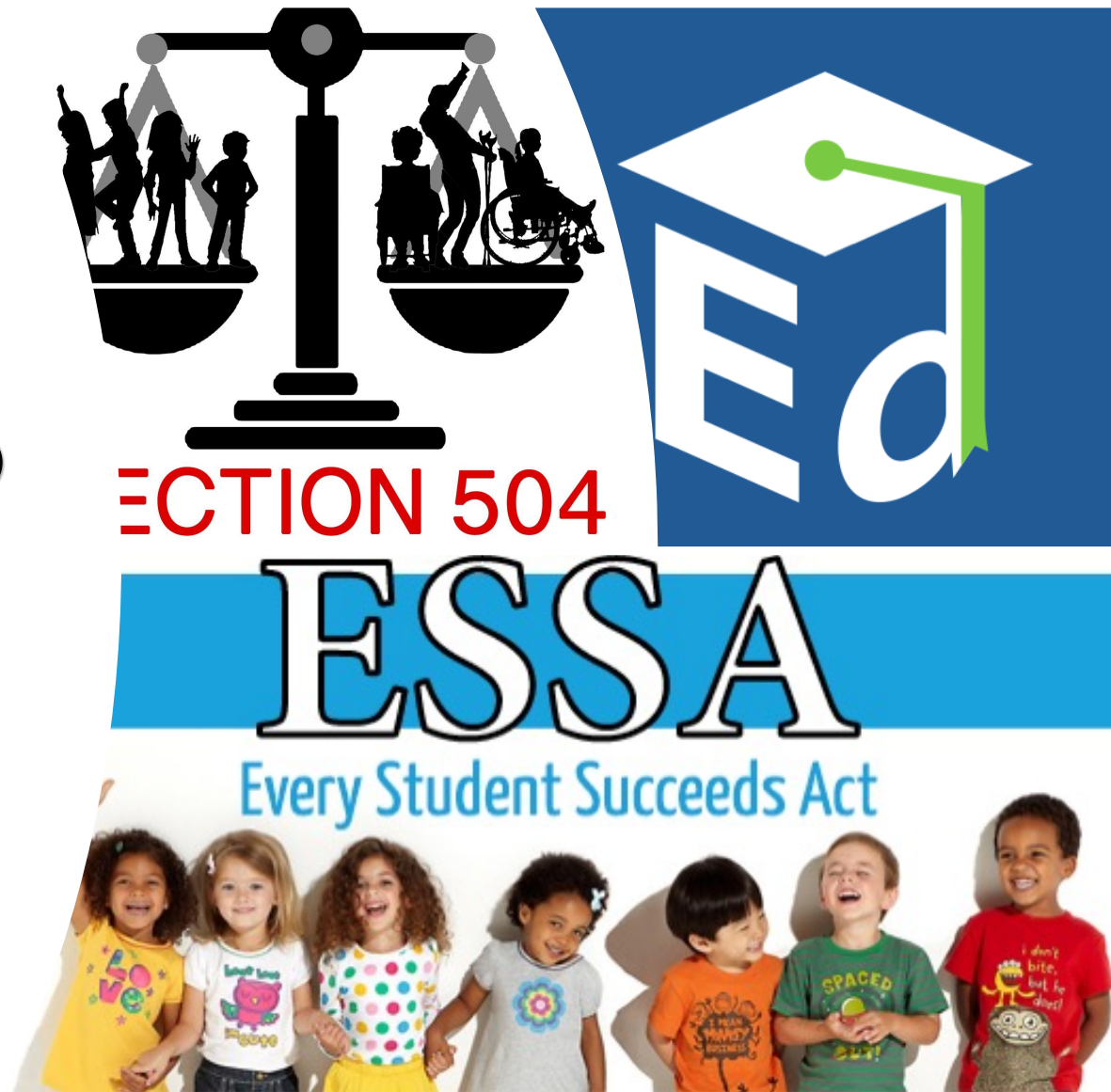
Genetic disorders

- Klinefelter syndrome
- Turner syndrome
- Velocardiofacial syndrome

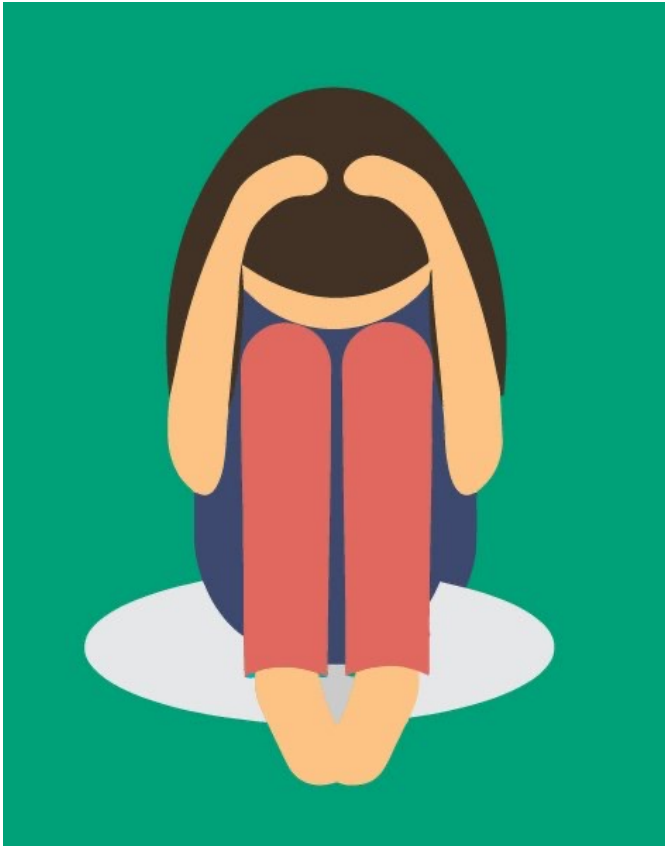
Spina bifida with shunted hydrocephalus

Laws that support students

- Individuals with Disabilities Education Act (IDEA)
- Rehabilitation Act of 1973, Section 504
- Title II Americans with Disabilities Act of 1990
- Every Student Succeeds Act (ESSA)



Anxiety Disorder



Prevalence: up to 8% of children and adolescents

Symptoms:

- Physical complaints
- Recurring and/or increasing fears and worries
- Trouble concentrating
- Trouble sleeping
- Fear of social situations: leaving home, going to school, separating from loved ones

Mood and affect disorders

Prevalence:

- Children: 2% - M:F 1:1
- Adolescence: 4-8% - M:F 1:2

USPSTF recommends screening (PHQ-9, Columbia Teen Screen, Beck Depression Inventory)

Diagnostic criteria for adolescents:

- 5 or more symptoms for 2 weeks
- One of the symptoms must be depressed mood or loss of interest or pleasure
- Do not meet criteria for mixed episode
- Clinically significant
- Not due to physiological effects of a substance or medical condition
- Not better accounted for by bereavement

Treatment

Psychotherapy:

- Cognitive behavioral therapy
- Interpersonal psychotherapy

Pharmacotherapy:

- Selective Serotonin Reuptake Inhibitor
 - Fluoxetine
 - Escitalopram
 - Sertraline



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