



LEARNING DISORDERS

&

CO-EXISTING BEHAVIOUR DISORDERS

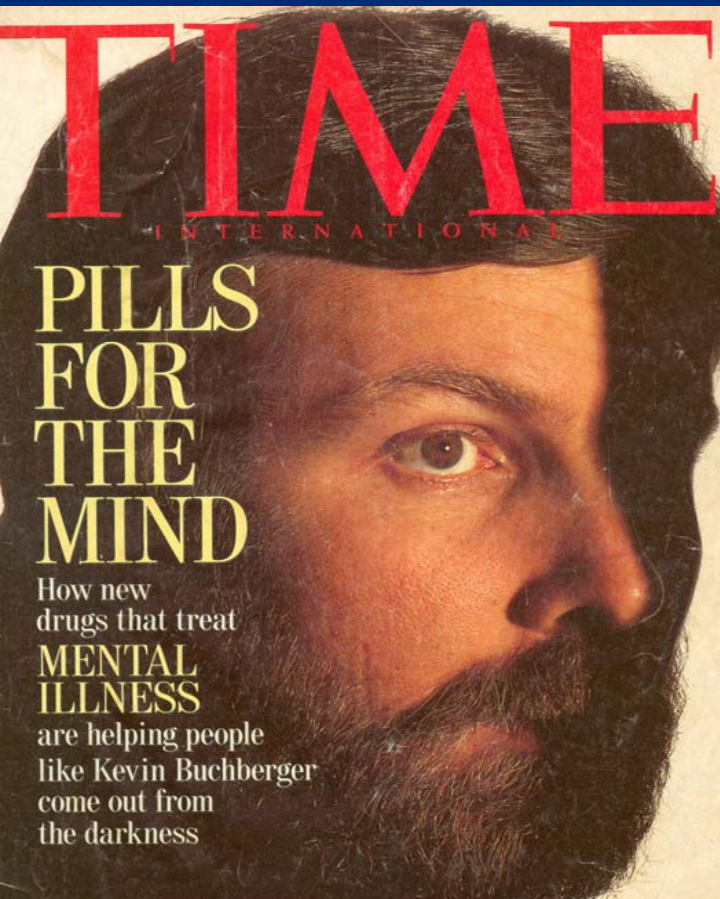
IN COLLABORATION WITH W H O :
PEEJAYS CHILD GUIDANCE CLINIC, COCHIN



MIND & FUNCTIONS

The mind's functions including the processes of Learning, Reading, Spelling, Writing, Language, etc. are all the result of efficient communication among specific brain areas.

This is the importance of understanding the organic basis of the Mind.



Mind is generated by the Brain.

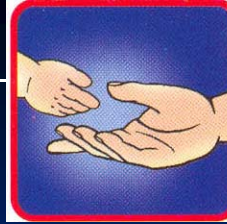
Psychiatry is Application of
Basic Neurosciences to man's
day-to-day problems.



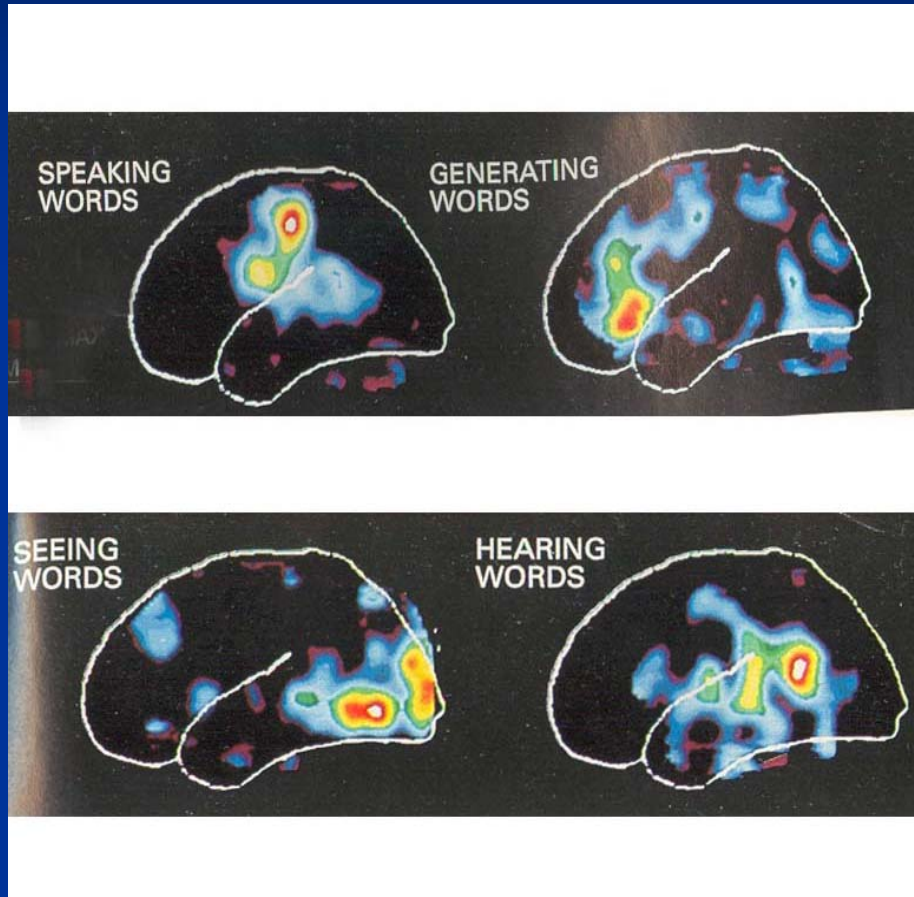
MIND & ITS FUNCTIONS: ORGANIC PERSPECTIVE

MIND-BODY DUALISM

- Dichotomy: Visible Vs Invisible
- Exponentially grown technology.
- EEG, CT, MRI, PET, SPECT, fMRI, MRS etc...
- **Peep into live brain cells** through these 'Windows'.
- 'Think & Feel' inside the Brain : Biochemical basis.

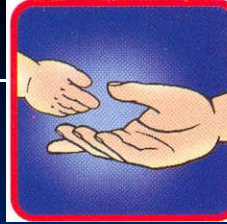


MIND : ORGANIC PERSPECTIVE

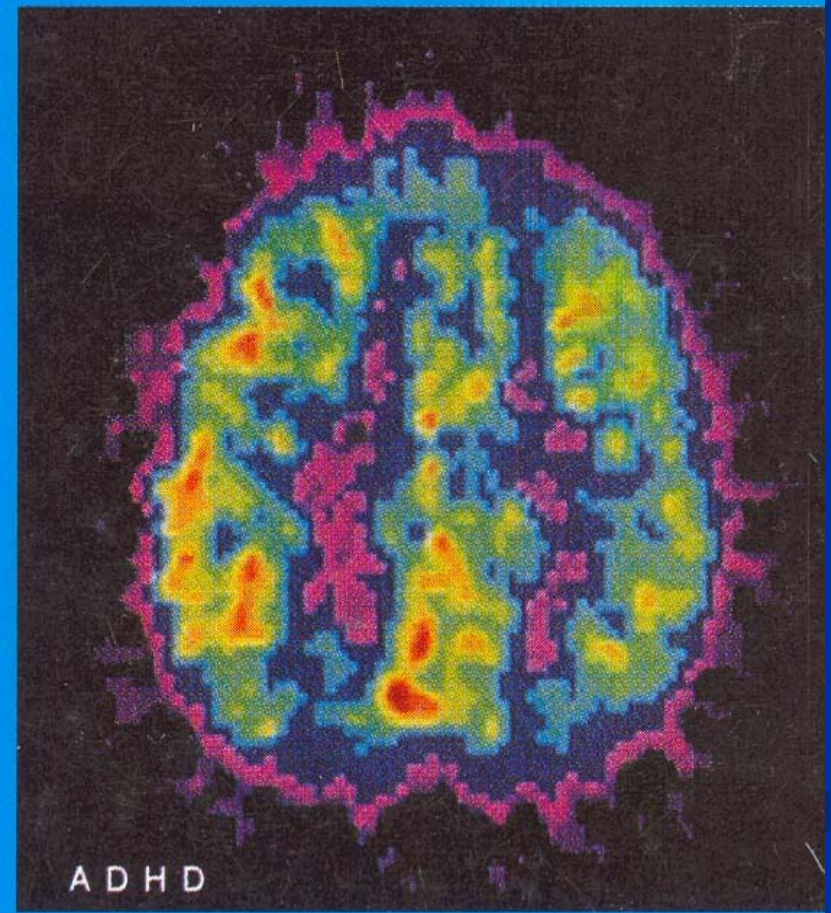
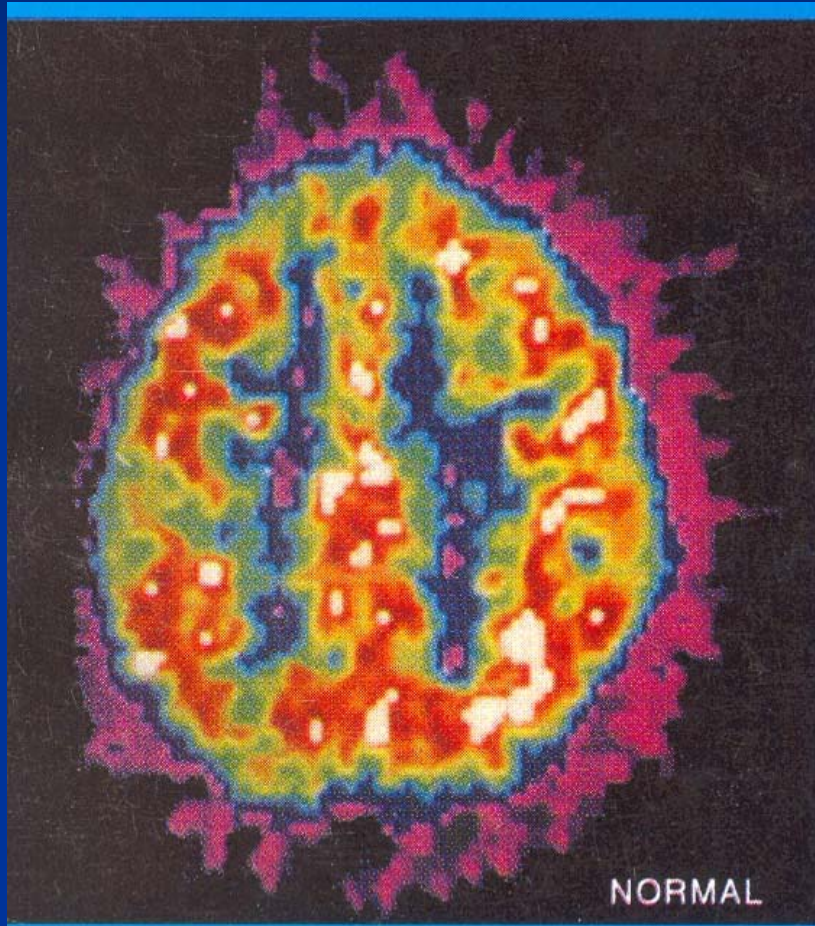


MAPPING THE BRAIN

Hot colours mark
the areas working on
various Tasks in these
PET scans



MIND : ORGANIC PERSPECTIVE

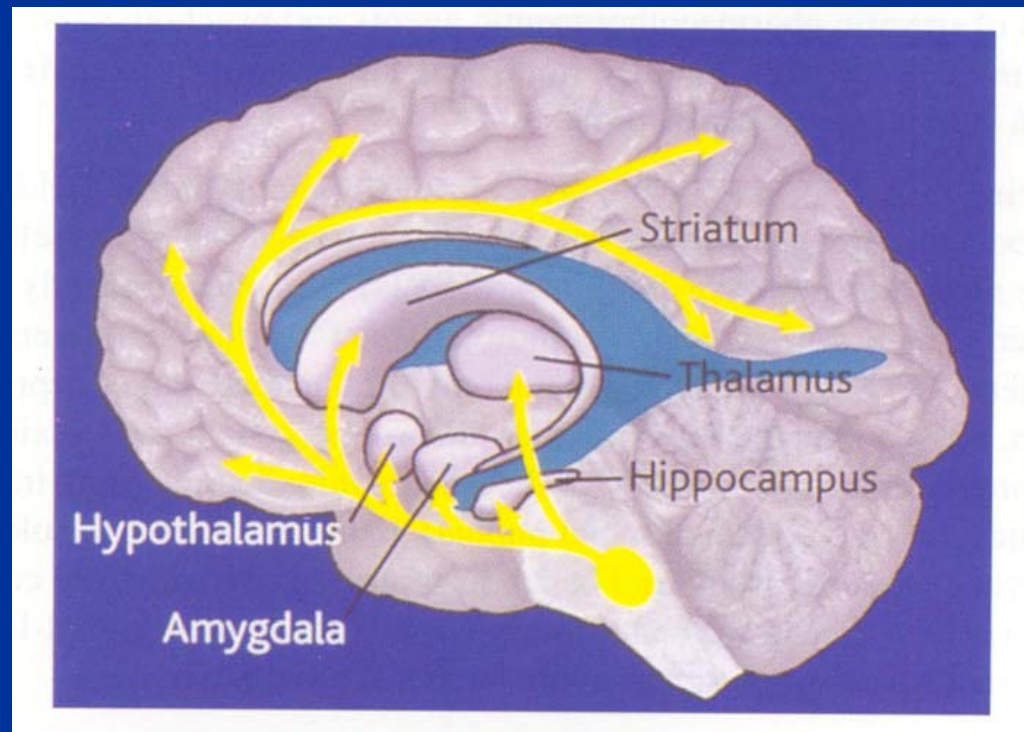


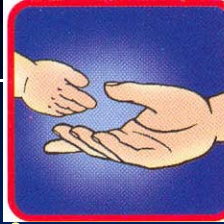
IN COLLABORATION WITH W H O :
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‘Think & Feel’ inside the Brain : Biochemical basis

SEROTONIN: AWAKENING OF THE SLEEPING GIANT ROLE IN DEPRESSION AS WELL AS ANXIETY





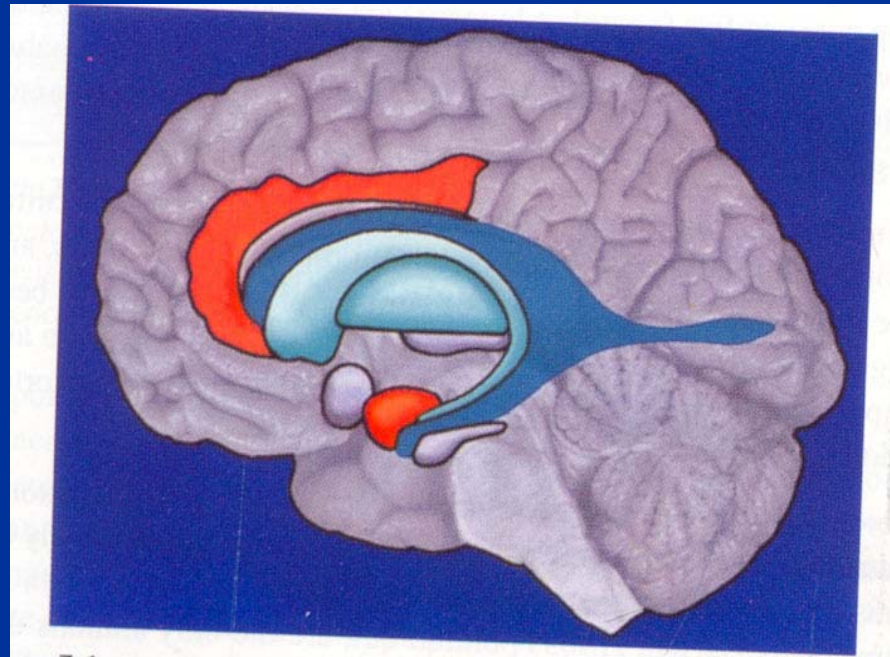
‘Think & Feel’ inside the Brain : Biochemical basis

SOCIAL PHOBIA:

FUNCTIONAL NEUROANATOMY

INCREASED AMYGDALA AND CINGULATE ACTIVITY

DECREASED BASAL GANGLIA ACTIVITY





MIND AND DYSFUNCTIONS:

**EMOTIONAL & BEHAVIOUR
DISORDERS**

**CO-EXISTING WITH LD
(CO-MORBIDITY)**



POOR SCHOOL PERFORMANCE : ‘MIXED BAG’ COCHIN : THE ‘LEARNING- EXPERIENCE’

- Initially, children brought with PSP presentation.
- As we went on, overwhelming co-morbidity.
- Co-morbid disorders came up with focused evaluation by Multidisciplinary Team under same roof.
- Co-morbid conditions found as
Primary psychiatric disorders, or secondary to
PSP, or to Developmental Disorders.



POOR SCHOOL PERFORMANCE – ‘MIXED BAG’ COCHIN : THE ‘LEARNING–EXPERIENCE’ (n = 1310 of 2 years)

- **62.7% of confirmed diagnosis of LD (6-14 years)
have additional Axis I or II Disorders**
- **A given child manifests one or more of these
neuro-psychiatric disorders. High level co-morbidity.**
 - **LD and the other 2 DD (CD + DCD) : 31.6%**
 - **ADHD in 41% of LD cases**
 - **Anxiety/Depression in 24%**
 - **OC disorders in 22%**
 - **ODD / Conduct in 12%**
 - **Tourette/Tics in 5%**

NEED FOR MULTIDISCIPLINARY CGC : PSYCHIATRIST

WHY DOES THIS CHILD SCORE POOR MARKS? CAUSES IN THE CHILD & CAUSES IN THE ENVIRONMENT

POOR SCHOOL PERFORMANCE

CAUSES IN THE CHILD

(VISUALISE A CHILD IN YOUR CLASS)

① PHYSICAL CAUSES

Vision/Hearing
Epilepsy etc.

② DELAYED MILESTONES OF BRAIN DEVELOPMENT

(Slow to start walking, talking etc.)

MR (Low IQ)
"Slow Learners"

③ SPECIFIC DELAYS OF ACADEMIC SKILLS

(Reading, Writing, Spelling, Mathematics etc.)

Learning Disorder(LD)
(‘Dyslexia’)
Normal IQ;
Discrepancy between
Potential & Performance.
Listens & Learns.
Tells Answers.
But, Unable to Write.

④ INATTENTIVE, OVERACTIVE IMPULSIVE CHILD

ADHD
Inability for Attention.
Restless Hands and Legs.
Disorganised.

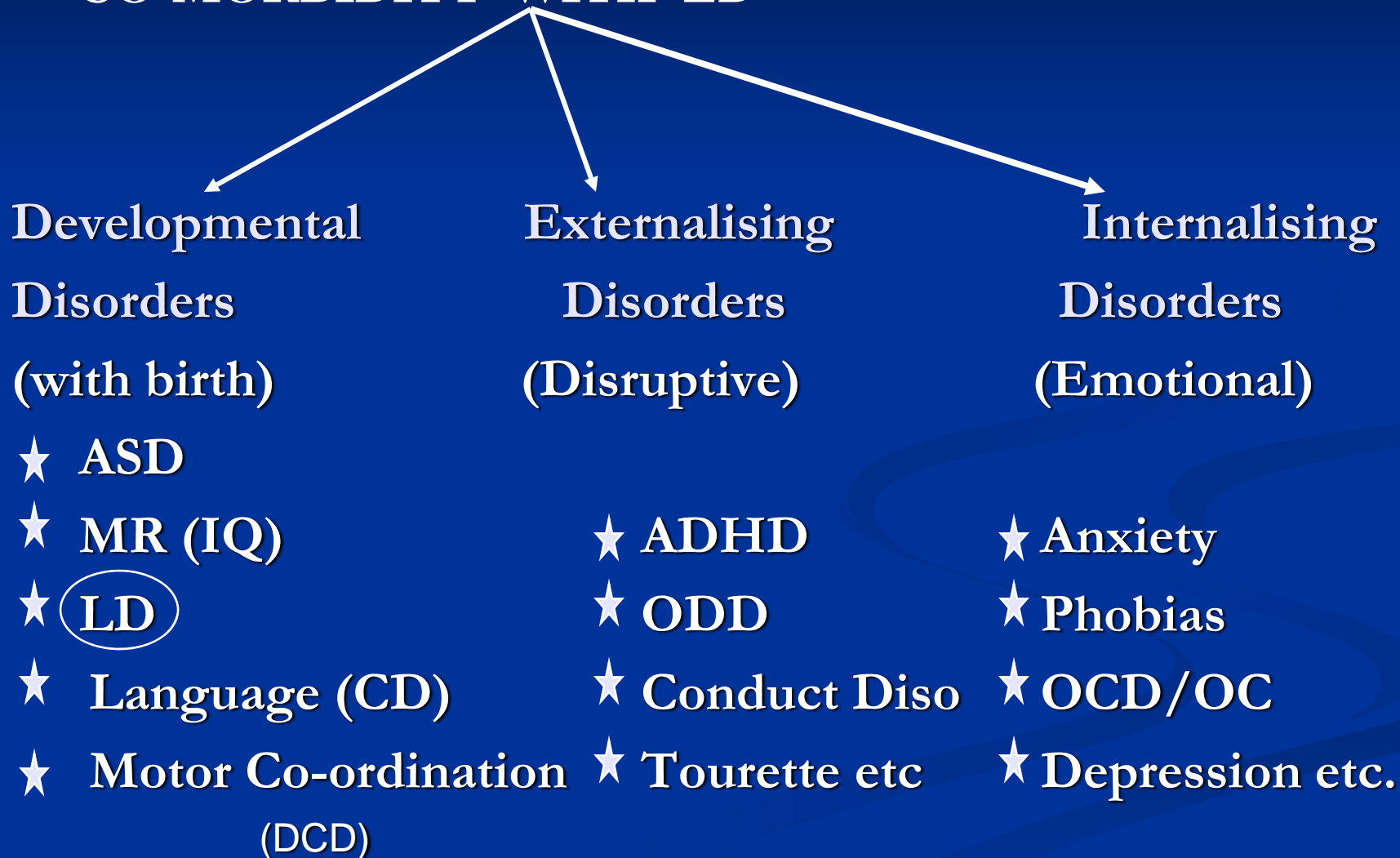
⑤ EMOTIONAL AND CONDUCT DISORDERS

School Phobia,
Anxiety, Depression,
Oppositional,
Defiant Disorder etc.



CHILDHOOD PSYCHIATRIC DISORDERS :

CO-MORBIDITY WITH LD





TYPES OF CO-MORBID DISORDERS

Developmental Disorders

TYPES

Disruptive Behavior Disorders

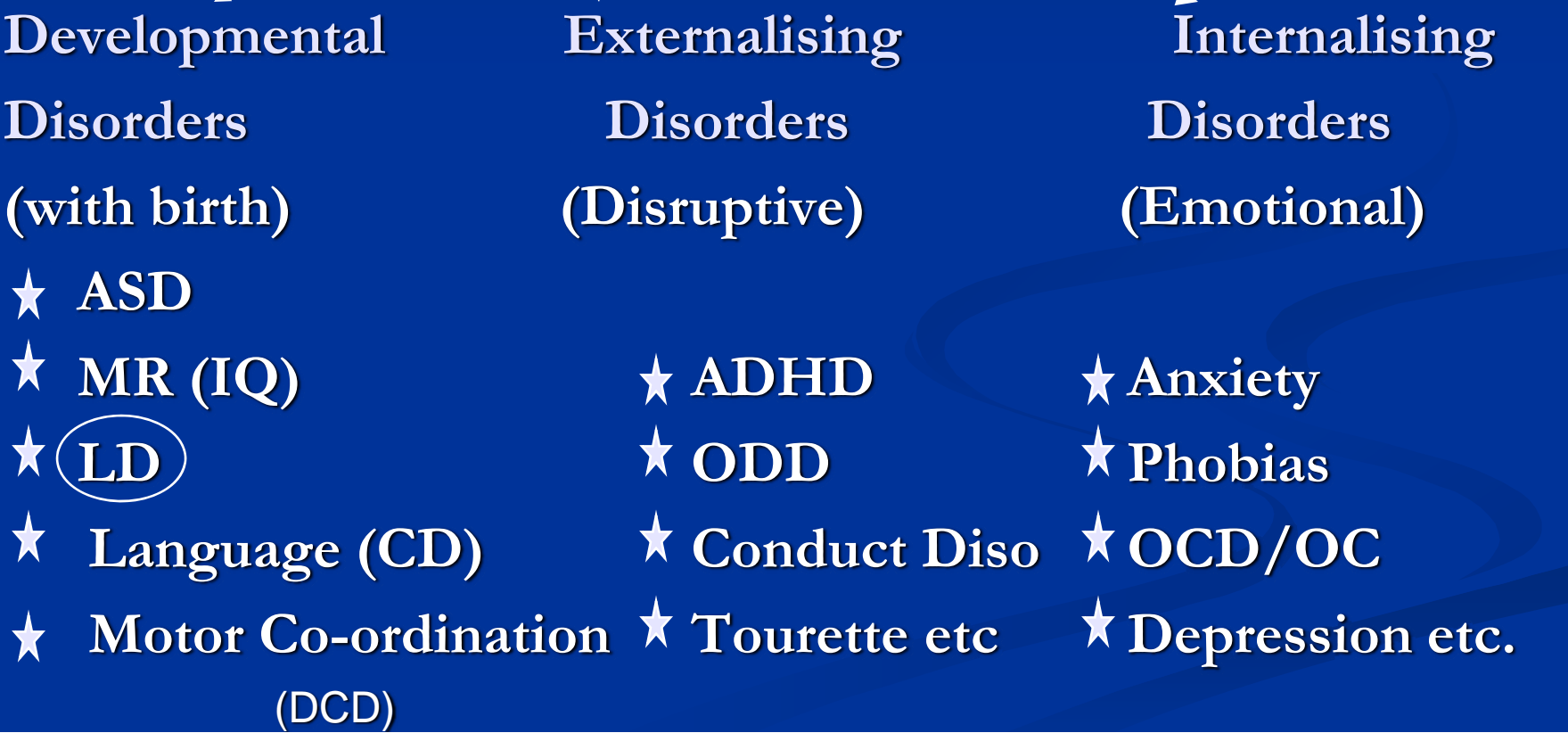
Emotional Disorders



CHILDHOOD PSYCHIATRIC DISORDERS :

CO-MORBIDITY WITH LD

REPEAT





TYPES OF CO-MORBID DISORDERS

Developmental Disorders

➤ COMMUNICATION DISORDERS

- Difficulty with Speech
- Difficulty with Receptive Language
- Difficulty with Expressive Language

➤ DEVELOPMENTAL COORDINATION DISORDER

Difficulty with Fine tuning of movements affecting

- Pencil Grip
- Handwriting
- Shoe lacing
- Buttoning etc.

➤ LEARNING DISORDERS





TYPES OF CO-MORBID DISORDERS

I. DEVELOPMENTAL DISORDERS

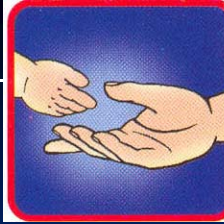
(SDD)

• **Developmental Disorder of Speech & Language**
(Articulation, Expressive and , Receptive Language)

• **Developmental Disorder Scholastic Skills (LD)**
(Reading, Writing, Spelling, Arithmetic, Mixed)

• **Developmental Disorder of Motor Skills**
(Fine Motor Skills, Co-ordination, Handedness etc)

Left Hemisphere : ‘Table-top Hemisphere’
LD as Prototype – Major cause for PSP.



TYPES OF CO-MORBID DISORDERS

II. DISRUPTIVE DISORDERS

(EXTERNALIZING DISORDERS)

Attention Deficit Hyperactivity Disorders (ADHD)

- Inattention

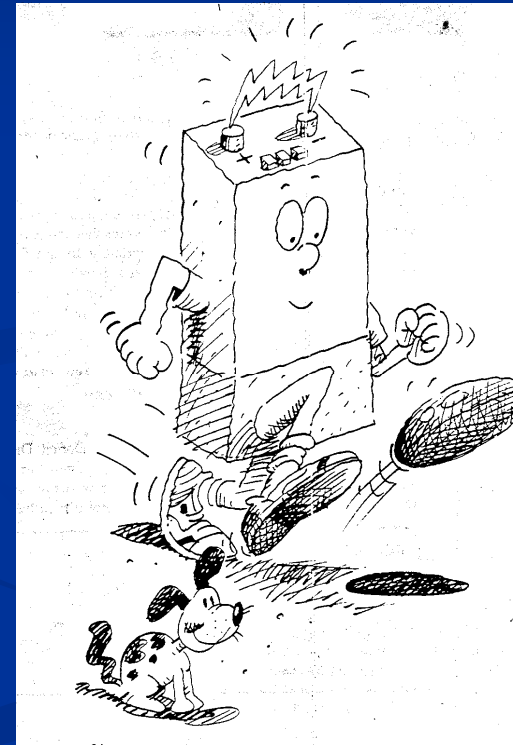
- Difficulty sustaining attention to tasks
- Makes careless mistakes
- Doesn't follow instructions
- Fails to complete tasks
- Frequently loses things
- Easily distracted
- Forgetful of daily activities



➤ Attention Deficit Hyperactivity Disorders (ADHD)

- Hyperactivity

- Often fidgets with hands or feet
- Difficulty remaining seated
- Talks excessively
- Runs about excessively
- Acts 'as if driven by motor'





➤ Attention Deficit Hyperactivity Disorders (ADHD)

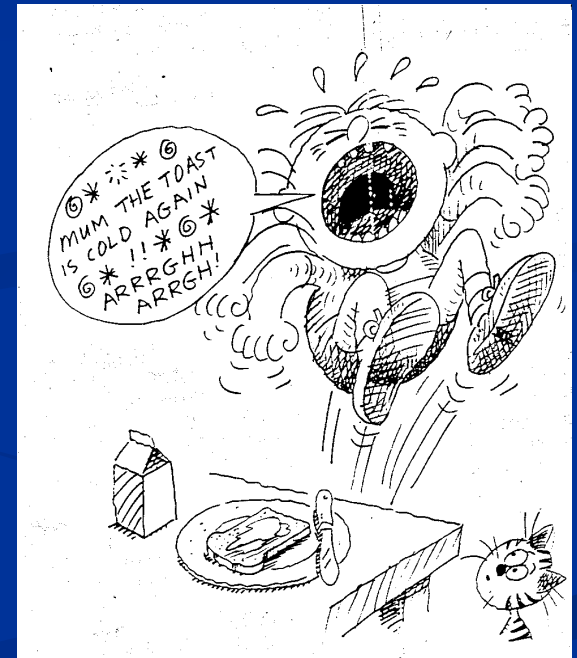
■ Impulsivity

- Often blurts out answers before question is completed
- Difficulty awaiting turn
- Intrudes into conversations or games
- Doesn't think of consequences



➤ Conduct Disorders

Low self esteem



EMPOWERING EDUCATION SECTOR

III. EMOTIONAL DISORDERS

(INTERNALIZING DISORDERS)



➤ ANXIETY DISORDERS

(Sense of fearful anticipation)

- Trembling of hands or legs
- Constant heaviness in the chest.
- Headache, Stomachache
- Palpitations, Breathlessness
- Dryness of mouth
- Sweating of palms
- Dizziness
- Frequent urination
- Tingling of hands and legs
- Nausea, Vomiting
- Loss of concentration
- “Mind going blank” (exams..)
- Feeling listless or wound up etc.

• POST-TRAUMATIC STRESS
DISORDERS (PTSD)

* ACUTE STRESS
DISORDERS



EMOTIONAL DISORDERS (INTERNALIZING DISORDERS)

➤ PHOBIA

- Fear to specific activity or situation
- Exam Phobia
- Social Phobias
- Multiple Phobia

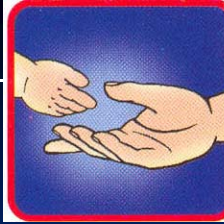


EMOTIONAL DISORDERS

(INTERNALIZING DISORDERS)

➤ DEPRESSION

- Withdrawn from everyone
- Avoids pleasurable activities
- Brooding or day dreaming
- Pessimistic, Crying spells
- Feeling of Guilt
- Suicidal Thoughts
- Irritability
- Tantrums



Emotional Disorders

(INTERNALIZING DISORDERS)

➤ OBSESSIVE DISORDERS

- Need for perfection
- Need to arrange and rearrange
- Need for checking and rechecking
- Intense need for cleanliness, washing
- Fussy about neatness, orderliness, sameness
- Doesn't like others sharing or touching belongings
- Slow in all activities, “starting trouble”
- Procrastination



EMOTIONAL DISORDERS (INTERNALIZING DISORDERS)

➤ TICS DISORDER

(Involuntary rapid Vocal or Muscular Movements)

- Vocal Tics
- Throat Clearing
- Grunting
- Snorting
- Hissing
- Motor Tics
- Eye Blinking
- Neck Jerking
- Shoulder Shrugging
- Facial Grimaces etc.



PSP AND CHILDHOOD

DISORDERS TAKE HOME MESSAGES

- ‘Mixed-Bag’ is the clear message.
- Neuro-psychiatric disorders with possibly shared neuropathology.
- Diagnostic and pharmacological implications.
- Systematically look for each possible Co-morbid Disorder in every child with Learning problems.

NEED FOR MULTIDISCIPLINARY C G C



TAKE – HOME MESSAGES

- Learning Disorders (LD) hardly exist in isolation.
- Other Neuro-psychiatric disorders co-exist with LD.
- Deliberately look for each Neuro-psychiatric disorder.
- Learning Disorders (LD) predispose the child for later development of Anxiety/Depression, Phobias, ODD/Conduct Disorder.
- In child with primary psychiatric disorder, presence of LD predicts a worse prognosis of that disorder.



TAKE – HOME MESSAGES

- For a case of PSP, a readymade checklist of possible co-existent diagnoses has been offered in the workshop.
- LD and these other disorders are not pure syndromes.
- Precise diagnosis will depend on Multidisciplinary assessment.
- Judicious medications, Multi-pronged Remediation.
- Create “Educational Diagnosticians”--
 - TEACHERS, COUNSELORS & PARENTS

