

CONTENTS:

- ❖ **INTRODUCTION**
- ❖ **DEFINITION**
- ❖ **CAUSES**
- ❖ **SYMPTOMS**
- ❖ **CHARACTERISTICS**
- ❖ **TYPES**
- ❖ **PROBLEMS**

Contd.

- **DIAGNOSIS**
- **TREATMENT**
- **STRATEGIES FOR PARENTS/
SUPERVISORS**
- **DYSLEXIA SERVICE IN INDIA**
- **FAMOUS PERSONS WITH DYSLEXIA**
- **PREVALANCE**
- **CONCLUSION**

INTRODUCTION

- **Greek word, '*dys*' (poor or inadequate) & the word '*lexis*' (words or language).**
- **Dyslexia and IQ are not interrelated.**
- **Commonly have difficulty in verbal skills, abstract reasoning, hand-eye coordination, concentration, perception, memory and social adjustment.**
- **Generally undetected in early ages.**

DEFINITION

- **The World Federation of Neurologists(1968):** "a disorder in children who, despite conventional classroom experience, fail to attain the language skills of reading, writing, and spelling commensurate with their intellectual abilities."
- **The U.S. National Institutes of Health:** "dyslexia is a learning disability that can hinder a person's ability to read, write, spell, and sometimes speak".

CAUSES

Left-Brain Functions

Analytic thought

Logic

Language

Science and
math

Right-Brain Functions

Holistic thought

Intuition

Creativity

Art and
music

✓ **The real cause are still unknown.**

✓ **Some probable causes:**

-Hereditary

-Neurological

-Cross wiring

-Hearing problems at an early age&

-Brain injury

Contd.

HEREDITARY:

- Frequently found in families, and is often accompanied by left-handedness.
- **Chromosome 1, 2, 6, & 15** can be involved in the inheritability of dyslexia.

NEUROLOGICAL:

- Bunches of cells **beneath the surface** of the brain have been detected.
- These groups of cells: '**ectopic**' cells in normal children move to the brain's surface at the time when the brain was developing.



Prefrontal Cortex

- The **magno-cellular system**, deals with ability to see moving images, is smaller in dyslexic people.

Left and Right Hemispheres

■ CROSS WIRING

- Use of EEG show an unusual variation in left- and right-side activity.



EEG

HEARING PROBLEM:

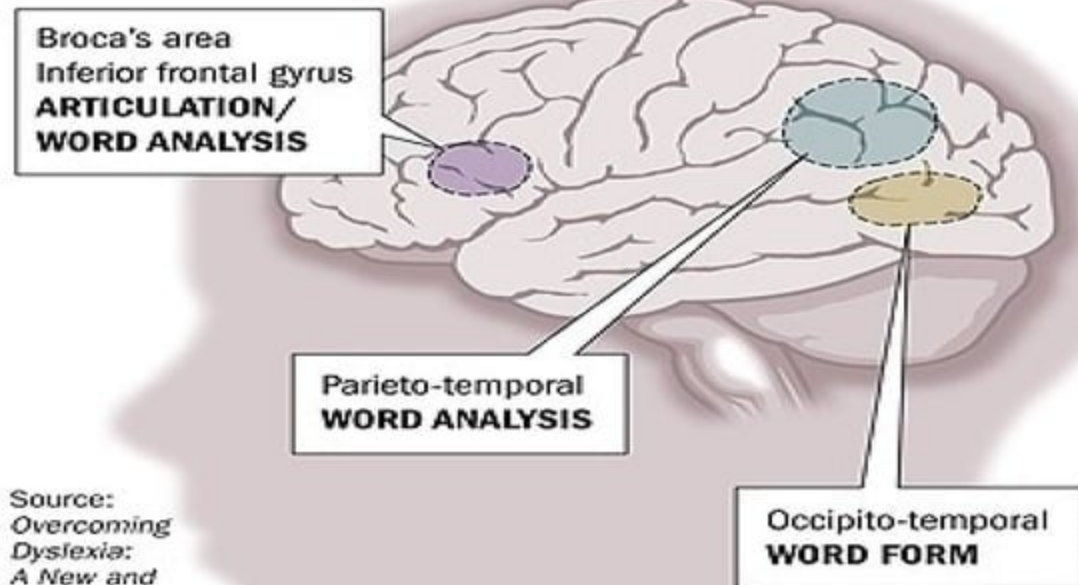


- ☐ Frequent **colds** and **throat infections** in the first 5 yrs.
- ☐ Sometimes known as '**glue ear**'.
- ☐ Unable to hear the difference between words.
- ☐ Delay the child's **phonemic awareness**.

BRAIN INJURY

- ☐ Accidents occurring during the **prenatal** or **postnatal** periods.
- ☐ The most common occurrences noted during **delivery**.
- ☐ Very long periods of labor, breech birth, oxygen deprivation of the new born.
- ☐ Injuries that **affect the left hemisphere** of the brain.

BRAIN SYSTEM FOR READING



Source:
*Overcoming
Dyslexia:
A New and
Complete
Science-Based
Program for
Reading Problems
at Any Level* by Sally Shaywitz

James Hilston/Post-Gazette

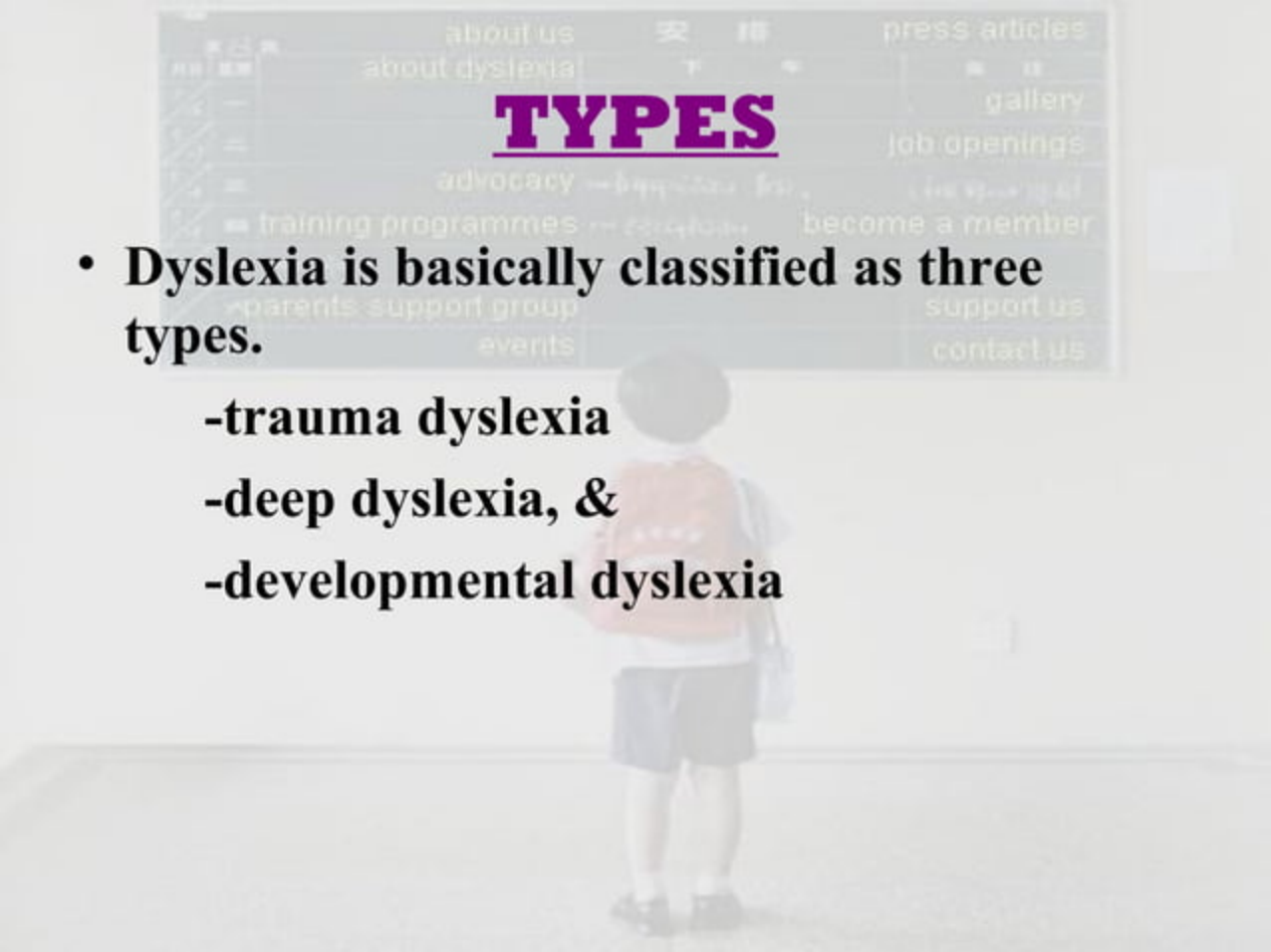
SYMPTOMS

- **A noticeable difference between the pupil's ability and their actual achievement;**
- **Difficulties with spelling;**
- **Confusion over left and right;**
- **Writing letters or numbers backwards;**
- **Difficulties with maths;**
- **Difficulty following 2- or 3-step instructions, etc.**

CHARACTERISTICS

These characteristics can vary from day-to-day or minute-to-minute.

- 1. General**
- 2. Academic**
- 3. Intellectual**
- 4. Health**
- 5. Motor skills or writing**
- 6. Reading & spelling**



TYPES

- **Dyslexia is basically classified as three types.**

-trauma dyslexia

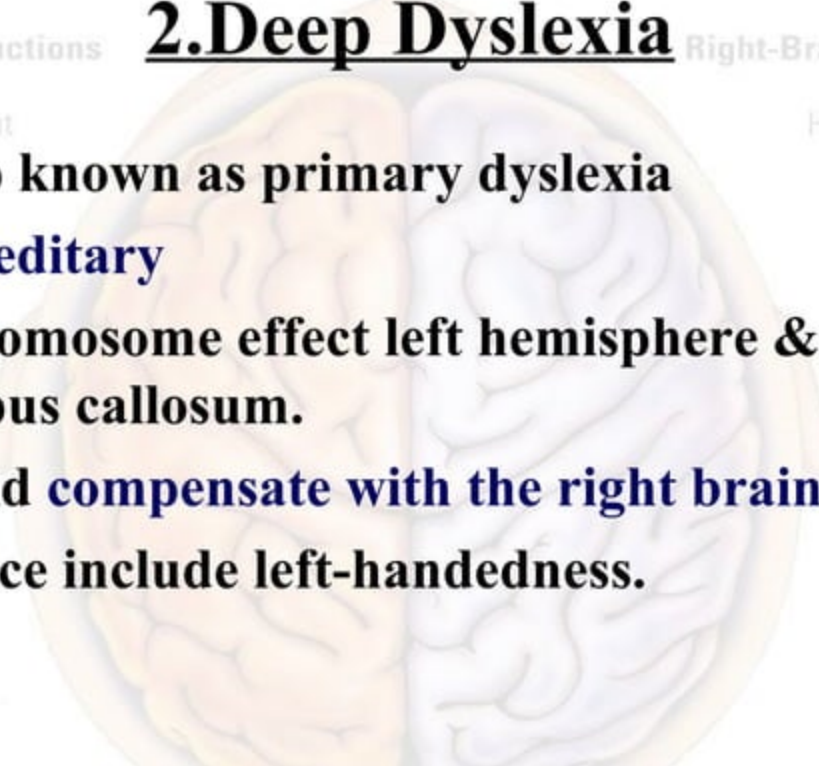
-deep dyslexia, &

-developmental dyslexia

1.Trauma Dyslexia

- ❖ **Acquired dyslexia**
- ❖ **Rarest type of this learning disability.**
- ❖ **Caused by a brain injury or conductive hearing loss.**

2. Deep Dyslexia

- 
- Also known as primary dyslexia
 - **Hereditary**
 - Chromosome effect left hemisphere & corpus callosum.
 - Child **compensate with the right brain.**
 - Hence include left-handedness.

Left-Brain Functions

Analytic thought

Logic

Language

Science
math

Right-Brain Functions

Holistic thought

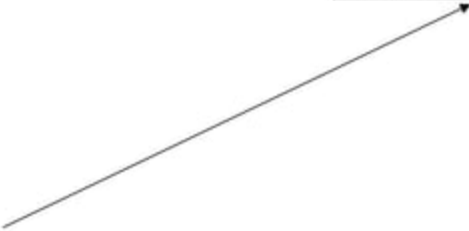
Intuition

Creativity

Art and
music

DEFECTIVE PARTS IN DYSLEXIA:

Corpus Callosum



A diagram illustrating the connection between the left and right hemispheres. A black box labeled 'LEFT HEMISPHERE' is on the left, and a brown box labeled 'RIGHT HEMISPHERE' is on the right. A black box labeled 'Corpus Callosum' is at the top right. A thin black line with an arrowhead at its right end points from the right side of the 'LEFT HEMISPHERE' box towards the 'Corpus Callosum' box.

LEFT HEMISPHERE

RIGHT HEMISPHERE

3. Developmental Dyslexia

❖ **Secondary dyslexia**

❖ **Developmental stages of the fetus**

❖ **Positive side: Severity decreases as the child grows older.**

SUB-CATEGORIES OF DYSLEXIA

ON THE BASIS OF CAUSE BEHIND DYSLEXIA:

- **Carlson in 1998**
- 1. Developmental dyslexia: genetic**
- 2. Acquired dyslexia: Brain trauma**

ON THE BASIS OF READING ABILITY:

- 1. surface,**
- 2. phonological,**
- 3. spelling and**
- 4. direct**

ACCORDING TO READING DIAGNOSIS:

- Johnson and Myklebust(1967)
 1. Visual Dyslexia
 2. Auditory Dyslexia

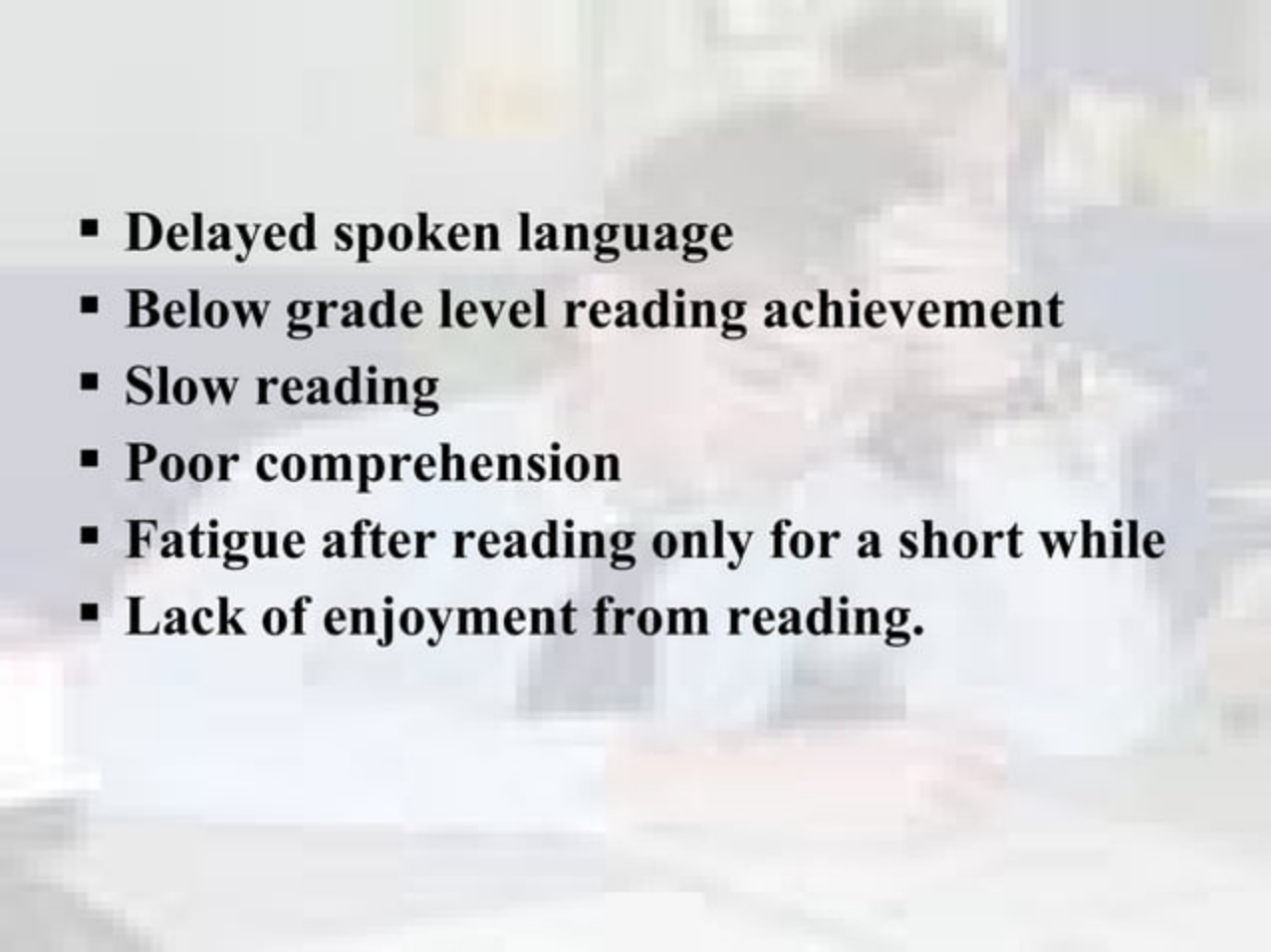
Based on the Illinois test of Psycho linguistic Abilities:

- Bateson (1968)
 1. Good visual memory but poor auditory memory
 2. Good auditory memory but poor visual memory
 3. Poor visual and auditory memory.

PROBLEMS

Common characteristics include problems with:

- **Spelling**
- **Handwriting**
- **Confusion with directions**
- **Confusion with right/left handedness**
- **Confusion with opposites**
- **Mathematics**
- **Transposing letters in word.**

- 
- **Delayed spoken language**
 - **Below grade level reading achievement**
 - **Slow reading**
 - **Poor comprehension**
 - **Fatigue after reading only for a short while**
 - **Lack of enjoyment from reading.**

DIAGNOSIS

- **Dyslexia is a difficult disorder to diagnose exactly.**
- **Several general diagnosis method includes:**
 - a classroom observation.**
 - a developmental, medical, behavioral, academic and family history.**
 - information on cognitive processing**
 - tests of specific language skills**
 - educational tests to determine level of functioning in basic skills**

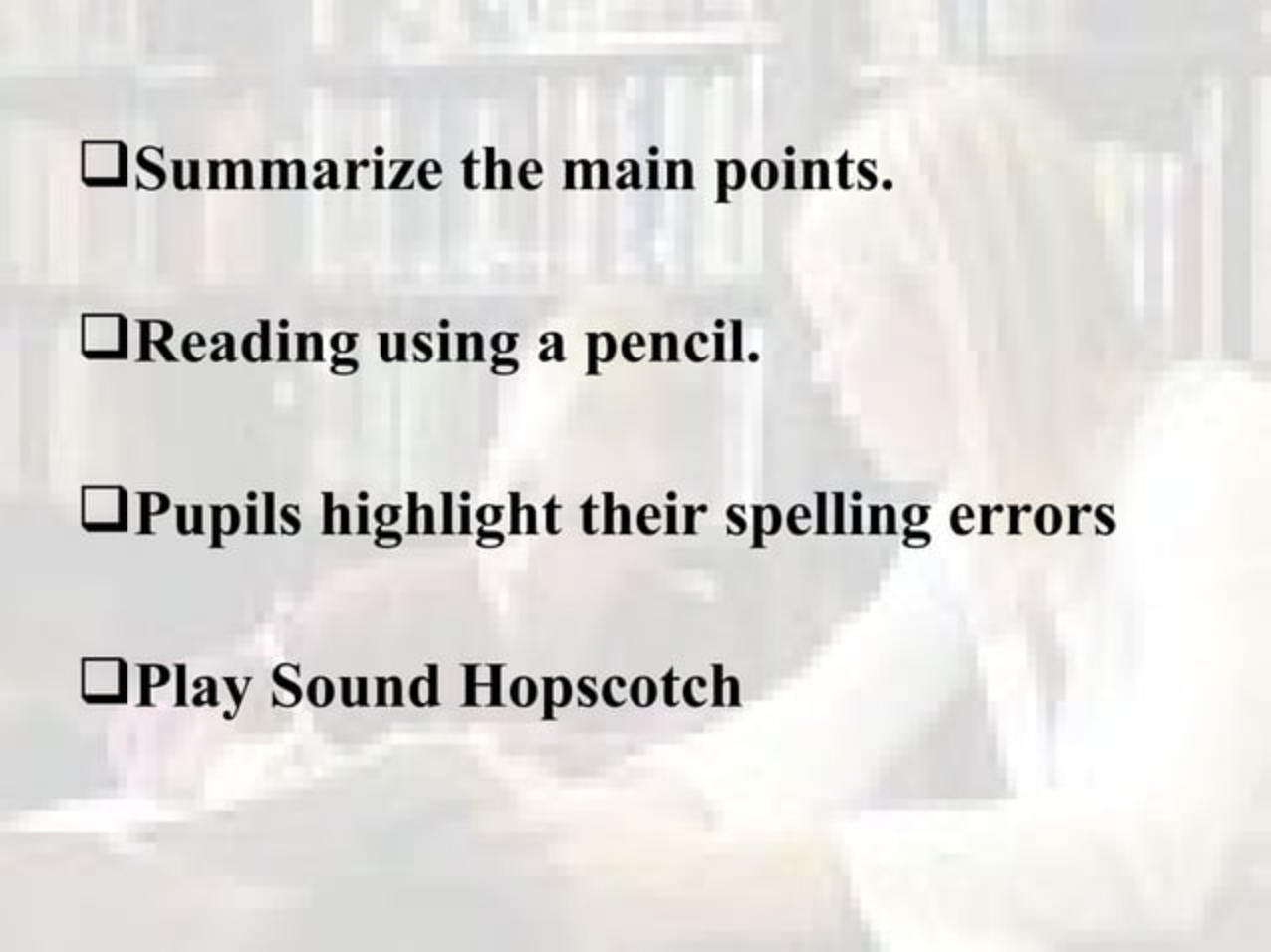
TREATMENT

- An **evaluation** must be done to determine the child's **specific area of disability**.
- Treatment of dyslexia ideally involves planning between the **parent(s)** and the **teachers**.
- May be implemented in a **Special Education setting** or in the **regular classroom**.
- Most important aspect of any treatment plan is **attitude**.
- There are also several therapies for the medical treatment.

ROLE OF PARENTS/ SUPERVISORS

- **Encourage**
- **Explain tasks more than once, ensure back**
- **Provide additional time**
- **Avoid more instructions**
- **Avoid small prints, overcrowded text.**
- **Use bullet points, more space, colour, flow chart, white boards.**
- **Use full stop(.) before starting of sentences.**



- 
- ☐ **Summarize the main points.**
 - ☐ **Reading using a pencil.**
 - ☐ **Pupils highlight their spelling errors**
 - ☐ **Play Sound Hopscotch**

DYSLEXIA SERVICE CENTRES **IN INDIA**

- ❑ The NINDS and other institutes of the NIH support dyslexia research across the country.**
- ❑ Several organizations help dyslexia:**
 - Madras Dyslexia Association (1991)**
 - Maharashtra Dys. Association(1996)**
 - Action Dyslexia Delhi (1997)**

FAMOUS PERSONS WITH **DYSLEXIA**

- **Thomas Alva Edison**
- **Walt Disney**
- **Tom Cruise**

○ **Leonardo da Vinci**

○ **Alexander Graham Bell**

○ **George Washington**

○ **Abhishek Bachchan**

PREVALANCE

- **5-10% of the world population** suffers from dyslexia.
- **1 of every 10** children is dyslexic (2006).
- **15-20% of US population.**
- **Dyslexia** and **probable dyslexia** were found to be **6.3 %** and **12.6 %**, respectively (2004) .
- The male to female **ratio** of dyslexia was **3.4:1**
- **8.7% ADHD symptoms.**

I am special
teach me to learn

CONCLUSION





I have ~~dis...~~
~~dislock...~~
~~dyslex...~~
I can't spell.

THANK YOU