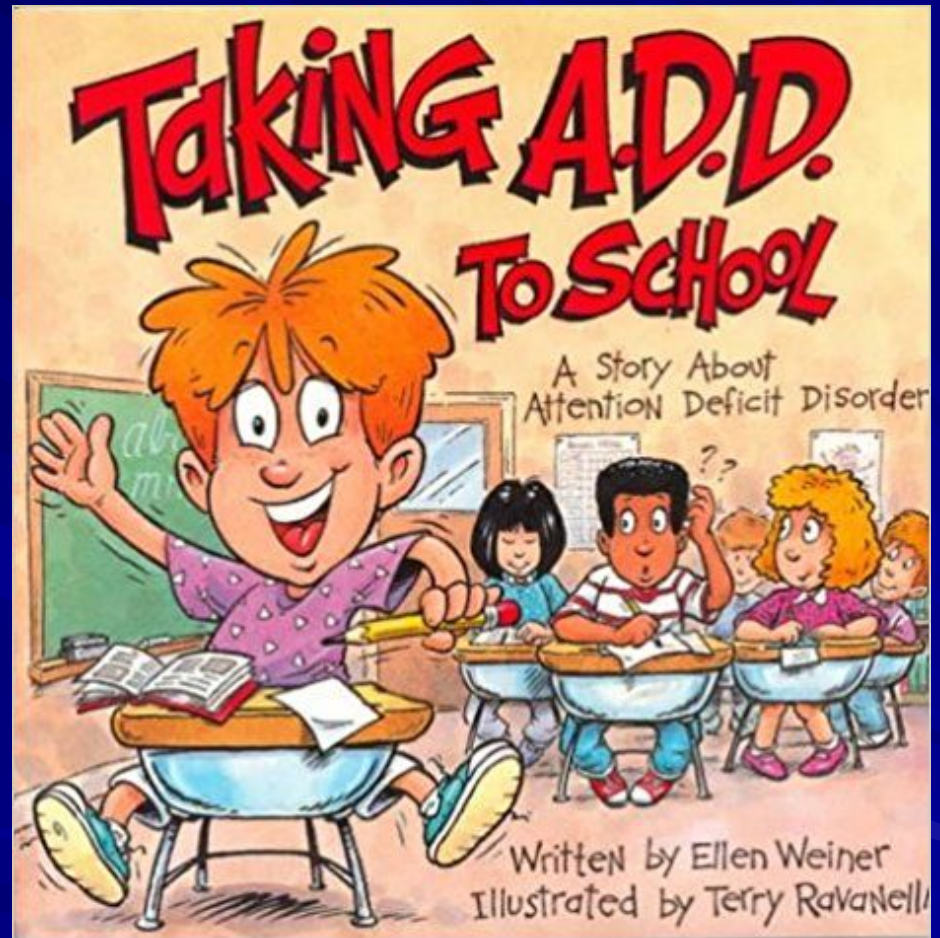


# ADHD

Attention-deficit/hyperactivity disorder (ADHD) is a brain disorder marked by an ongoing pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development.

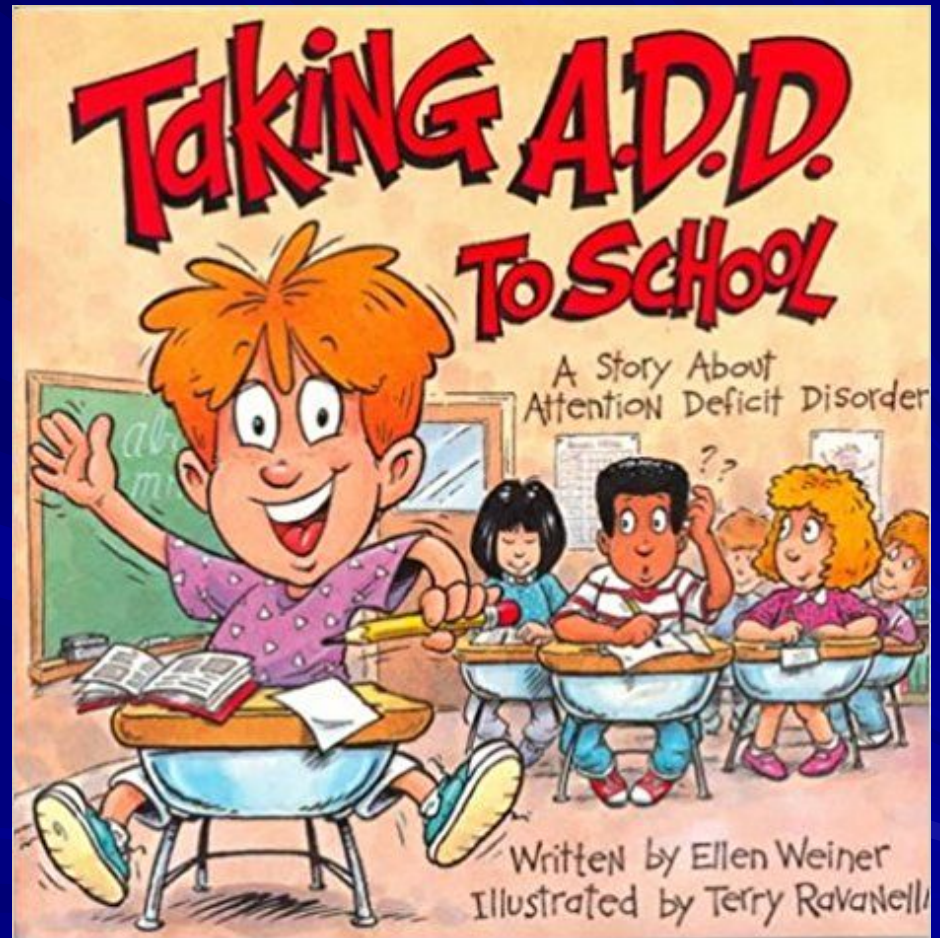


# ADHD

**Inattention** means  
a person

- wanders off task,
- lacks persistence,
- has difficulty sustaining focus,
- is disorganized;

These problems are not  
due to lack of  
comprehension.

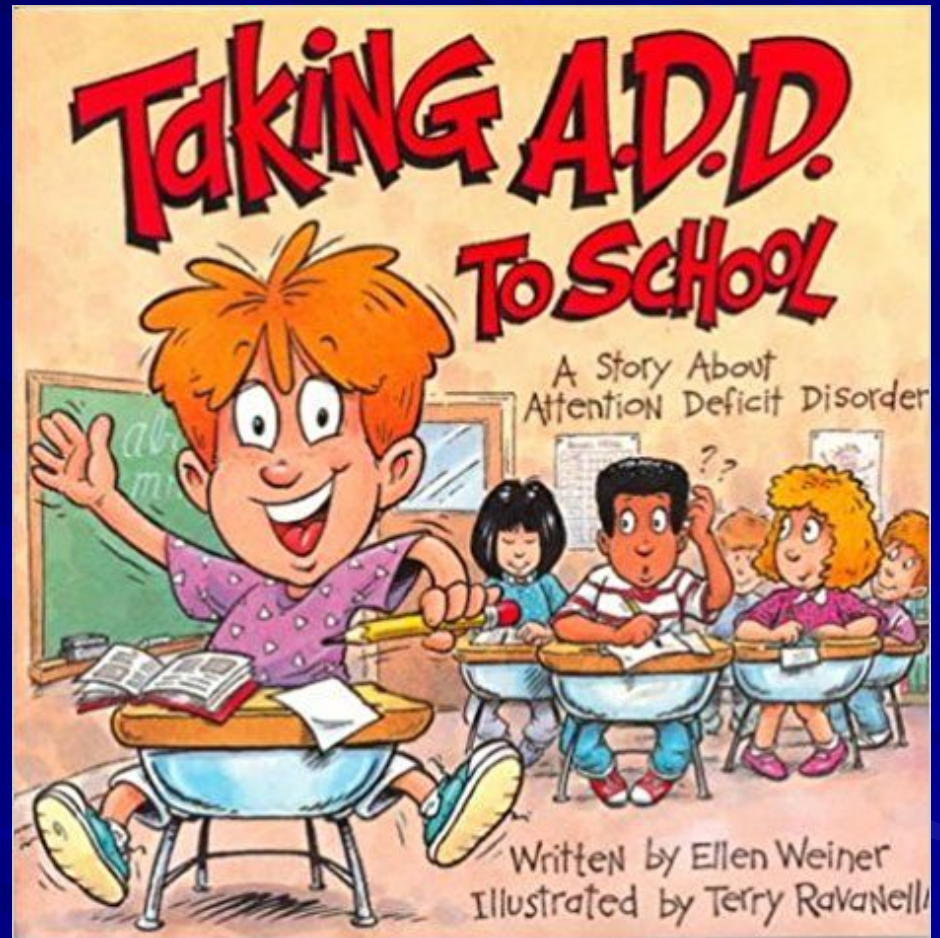


# ADHD

**Hyperactivity** means a person

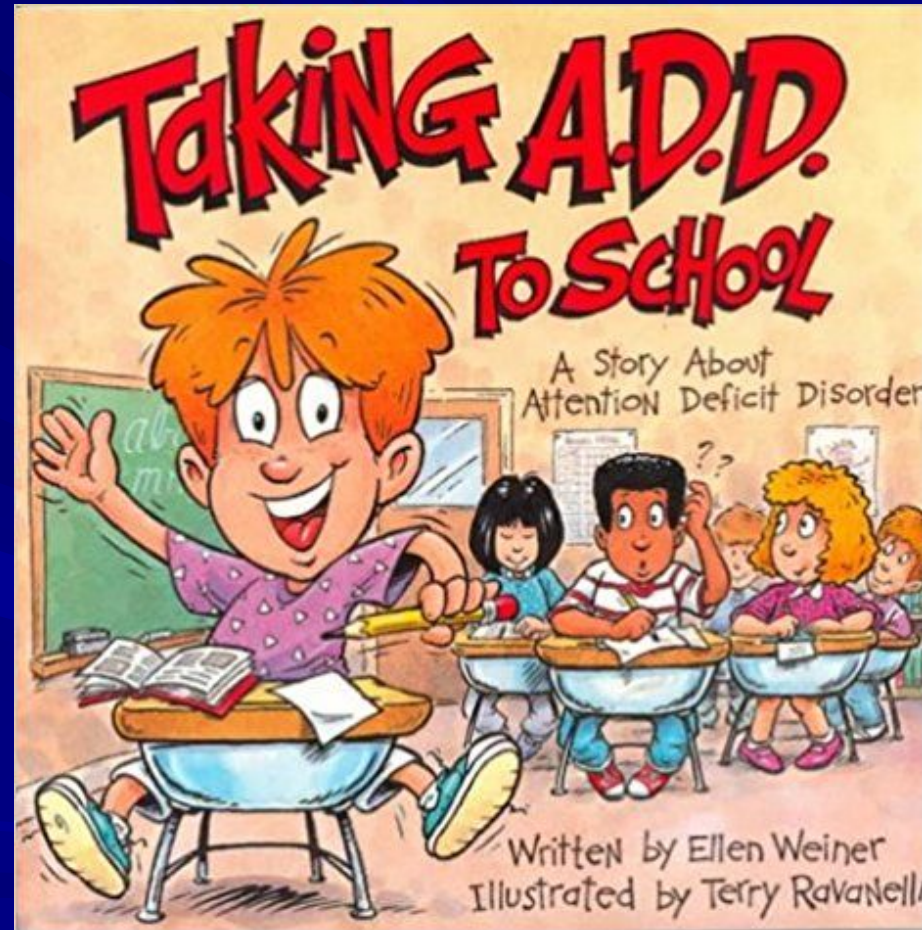
- seems to move about constantly, including in situations in which it is not appropriate;
- excessively fidgets, taps, or talks.

In adults, it may be extreme restlessness.



# ADHD

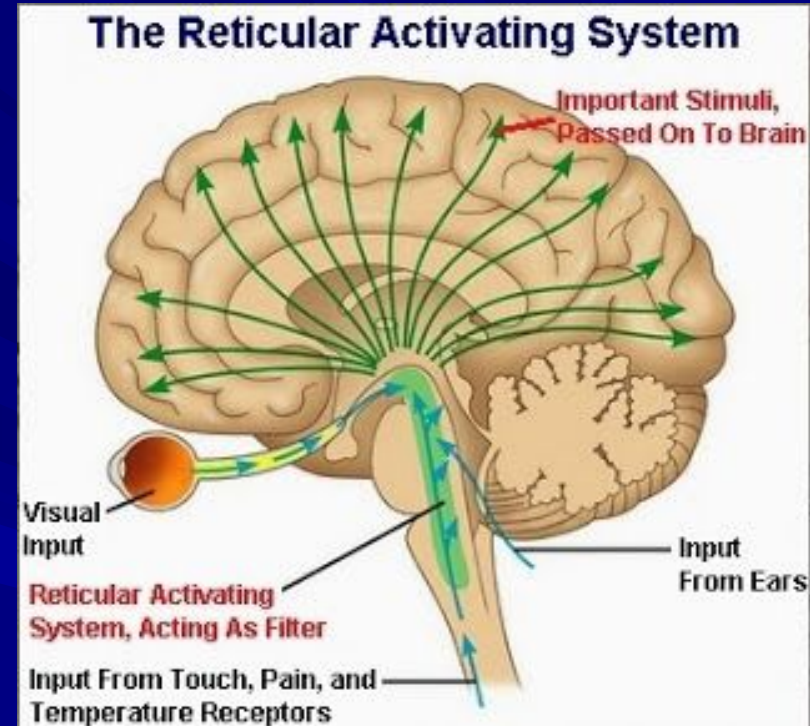
- **Impulsivity** means a person
- makes hasty actions that occur in the moment without first thinking about them;
- a desire for immediate rewards or inability to delay gratification.



# ADHD

## Attention deficit hyperactivity disorder (ADHD)

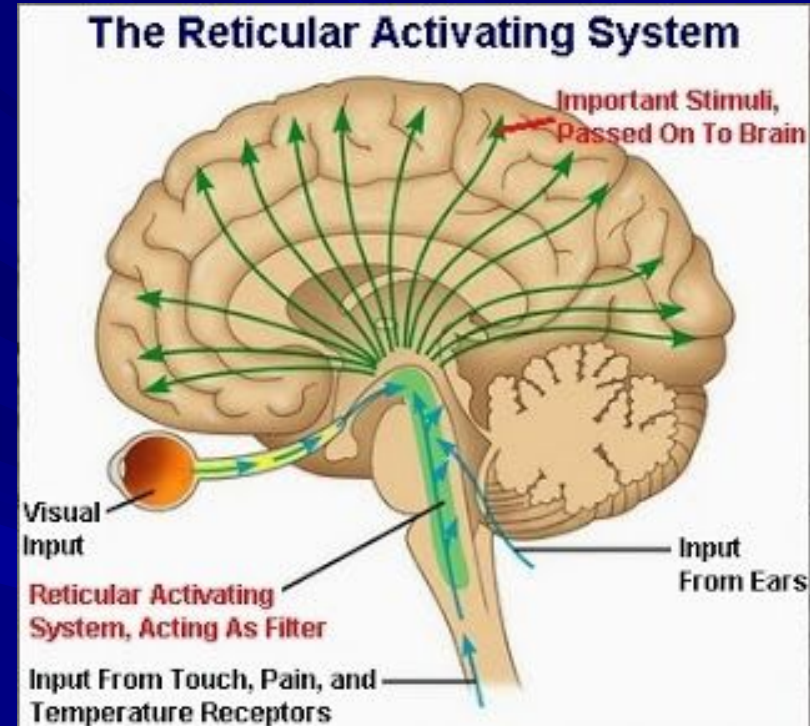
- is a dysfunction of the Reticular Activating System (RAS).
- RAS is the center of consciousness that
  1. coordinates learning and memory,
  2. and which normally supplies the appropriate neural connections necessary for smooth information processing and clear, non-stressful attention.



# ADHD

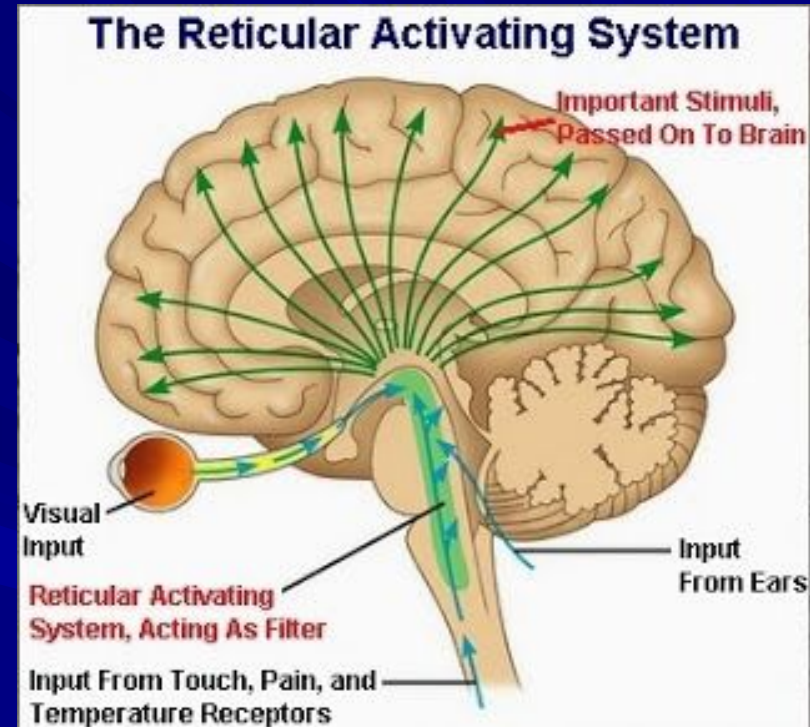
The RAS appears to be intimately involved in

- the neural mechanisms which produce **consciousness** and **focused attention**
- It receives impulses from the spinal cord and relays them to the **Thalamus**, and from there to the **Cortex**, and back again in a feedback loop to the **Hippocampus/Thalamus/Hypothalamus**



# ADHD

- Without continual excitation of cortical neurons by reticular activation impulses, an individual is unconscious and cannot be aroused.
- When stimulation is enough for consciousness but not for attentiveness, ADD results.
- If too activated, an individual cannot relax or concentrate (and is over-stimulated or hyperactive) often resulting in ADHD.



# ADHD

## Risk Factors

Scientists are not sure what causes ADHD.

A number of factors can contribute to ADHD, such as:

- Genes
- Cigarette smoking, alcohol use, or drug use during pregnancy
- Exposure to environmental toxins during pregnancy
- Exposure to environmental toxins, such as high levels of lead, at a young age
- Low birth weight
- Brain injuries



# ADHD

- ADHD is more common in males than females,
- Females with ADHD are more likely to have problems primarily with **inattention**.
- Other conditions, such as learning disabilities, anxiety disorder, conduct disorder, depression, and substance abuse, are common in people with ADHD.

