

Marijuana

**Its Impact on the Adolescent
Brain**

For Practitioners

July 25, 2017

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Why are we talking about weed?

- It is entrenched in teenage culture
- People know little about it and as a result the attitude of teens is that it is harmless
- Marijuana interferes with learning and development during the adolescent years
- The sharp increase in the potency and changes in the methods of deliver
- Adults need to get into the conversation with youth as we did with sex education



How do we reach them?

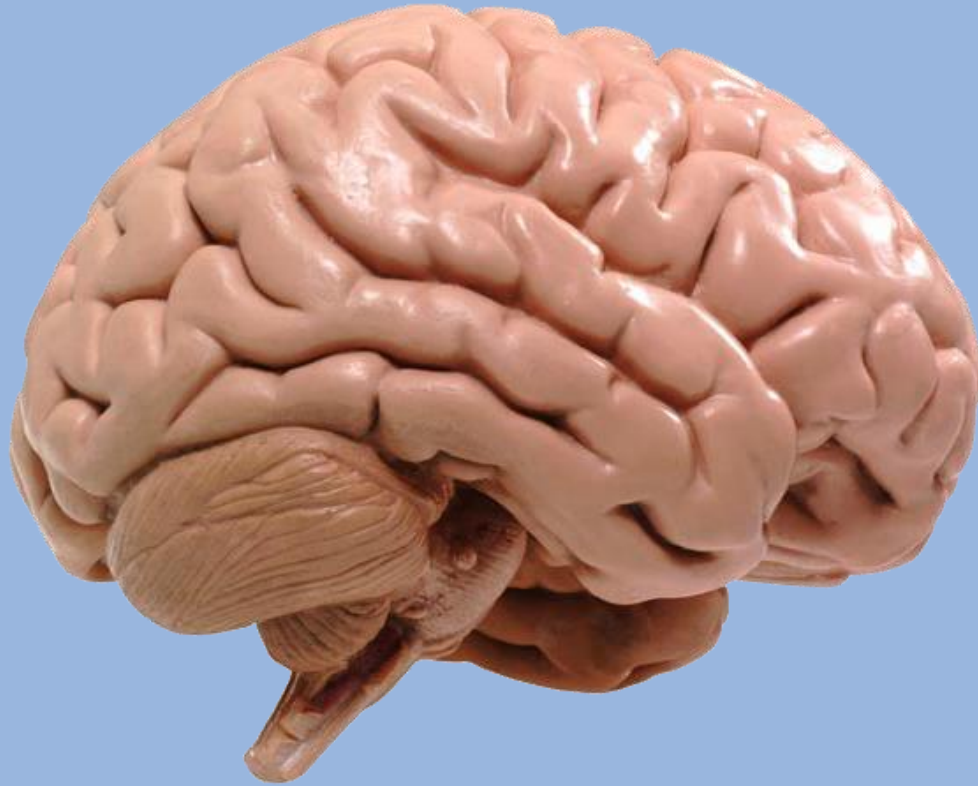
How do we reach teens?

- Being authentic – believe what you are saying
- Being nonjudgmental – not teaching through our judgments
- Listening – the power of seeing someone
- Understanding and using the whole brain in our communication with youth

The 3 Part Brain



The Power of the Unconscious



Goals of Drug Education

- Think more deeply about the issue
- Make a more informed decision
- Have a positive influence on behavior
- Know that adults care and will respond to needs
- Identify youth that may need help
- Delay initial usage or retard usage of substances

Our Work with Youth

What are expected outcomes in a session with youth?

- Self Assessment
- Education
- Referral
- Rapport

Meet them where they are at

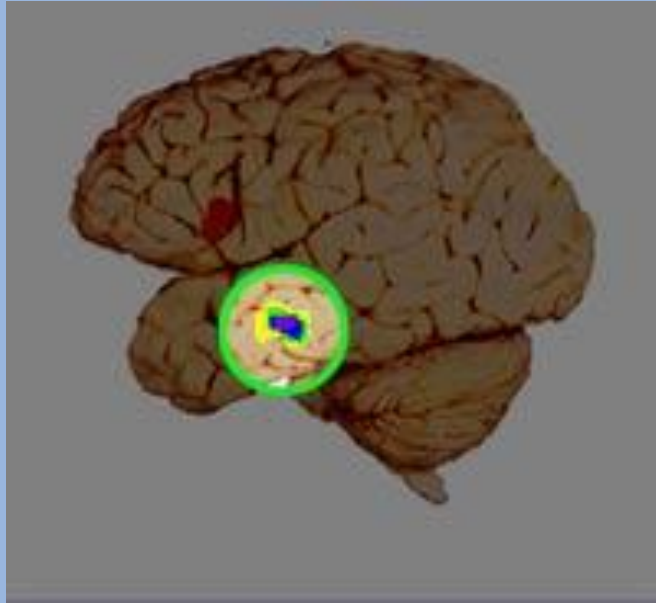
Stages of Change

- Pre Contemplative Stage
- Contemplative Stage
- Planning Stage
- Implementing/Maintenance Stage
- Relapse Stage
- Maintenance Stage

Ralph's Marijuana Lesson

- The difference of an adolescent brain
- The power of Dopamine
- History of weed and THC
- Cannabinoid sites
- Stays in system longer
- Lungs, tar and cilia
- The deeper monkey
- Wizard of Oz

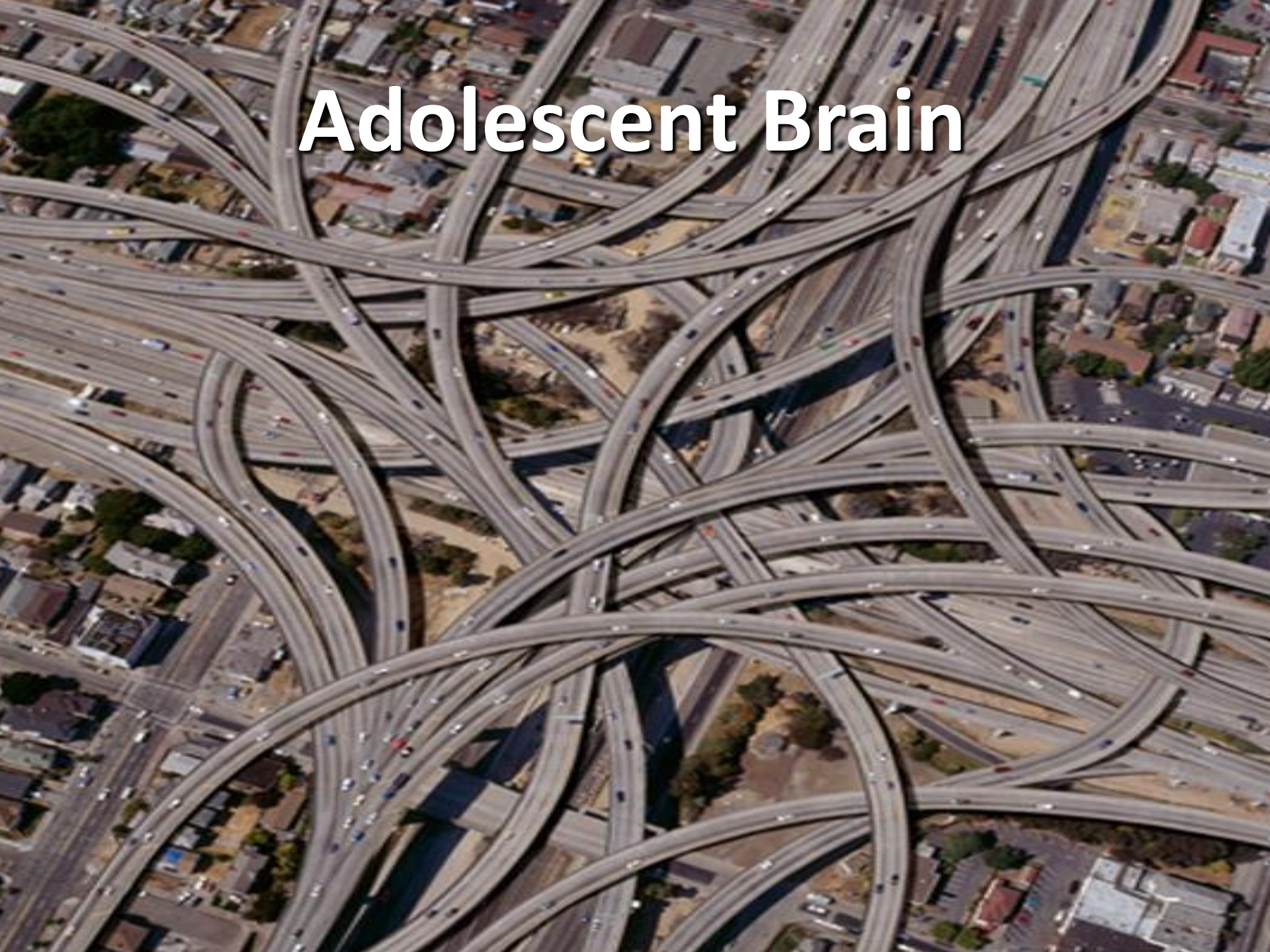
Adolescent Brain



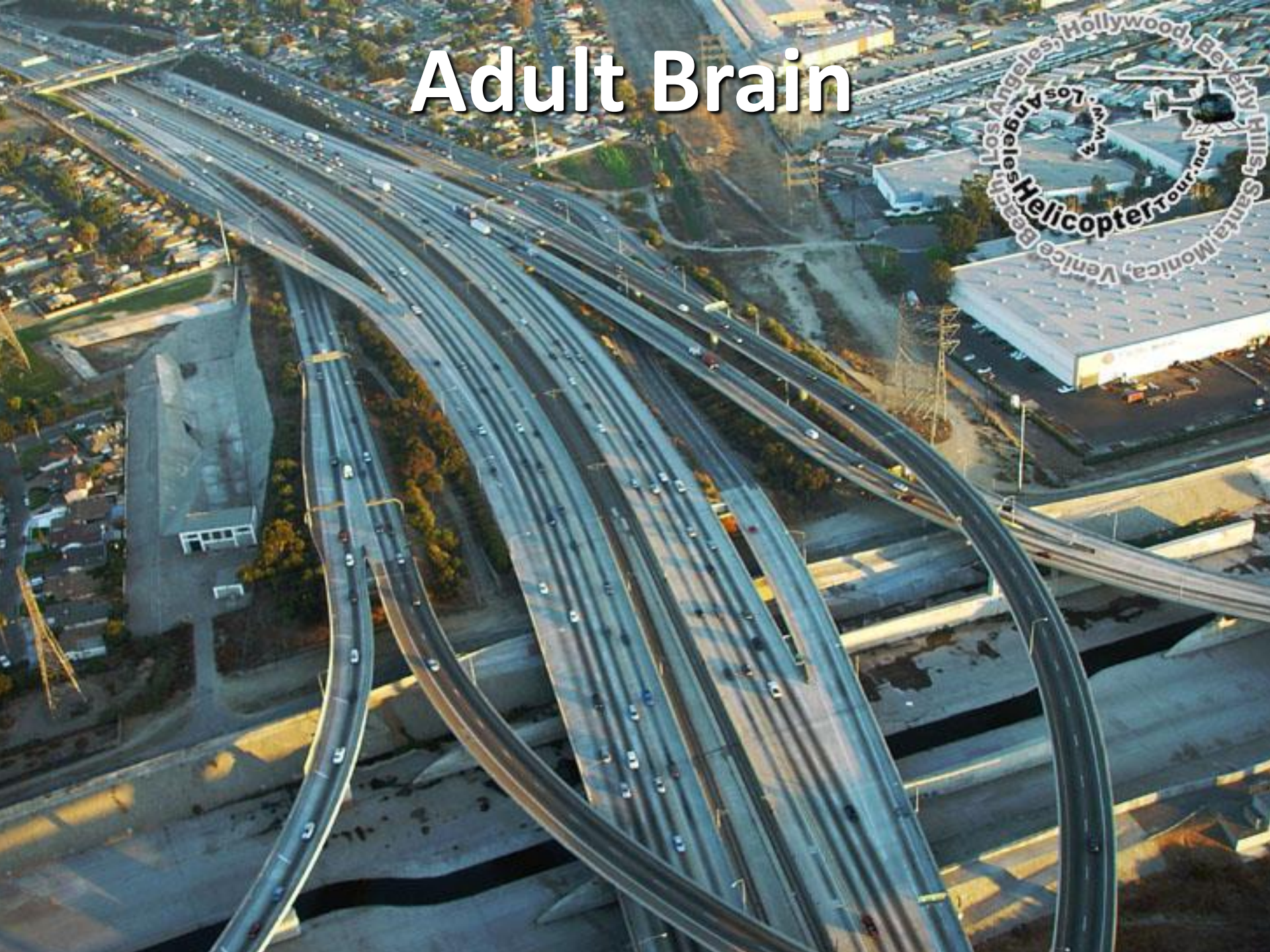
Adult Brain



Adolescent Brain



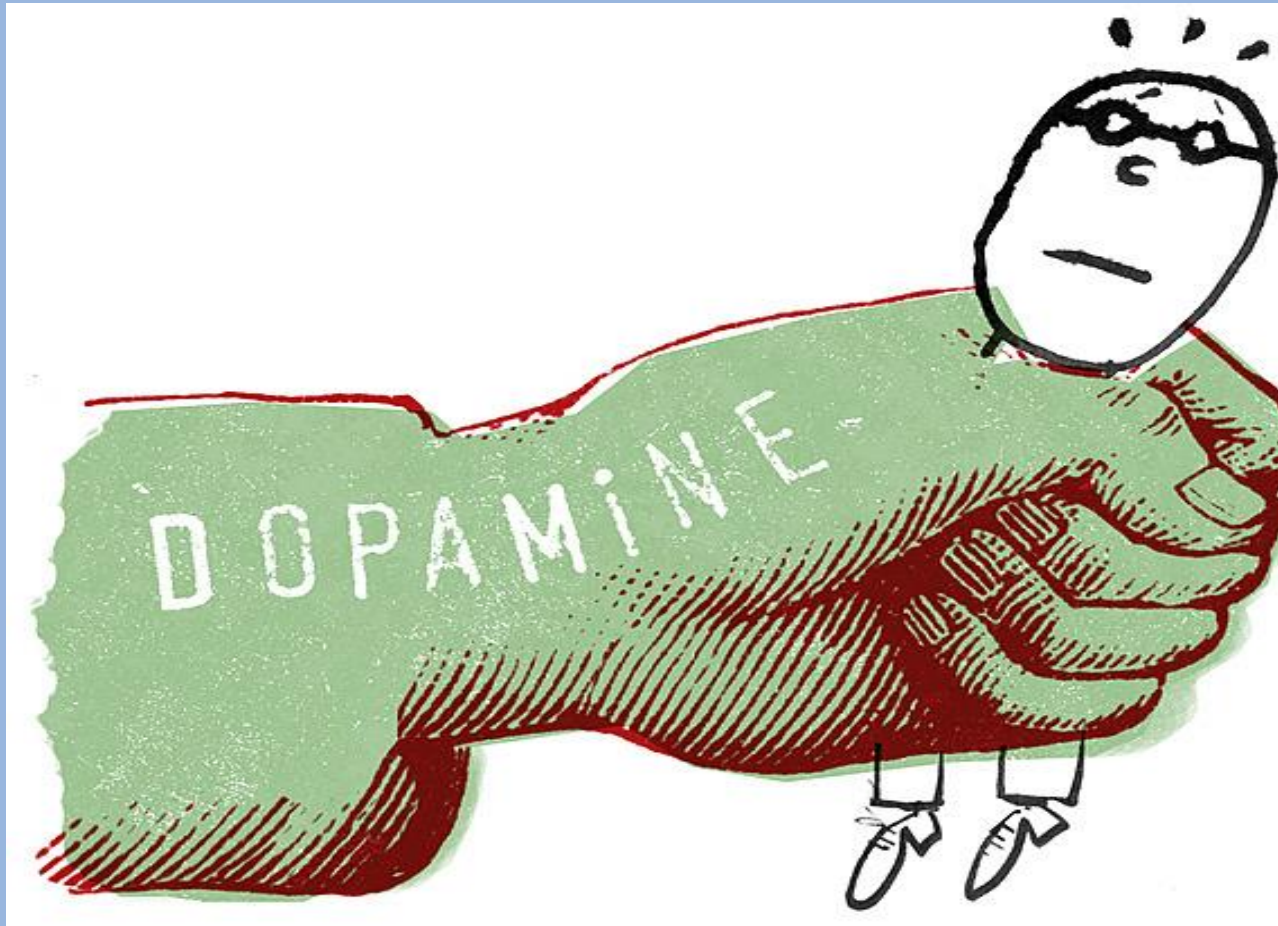
Adult Brain



Pruning & Myelination

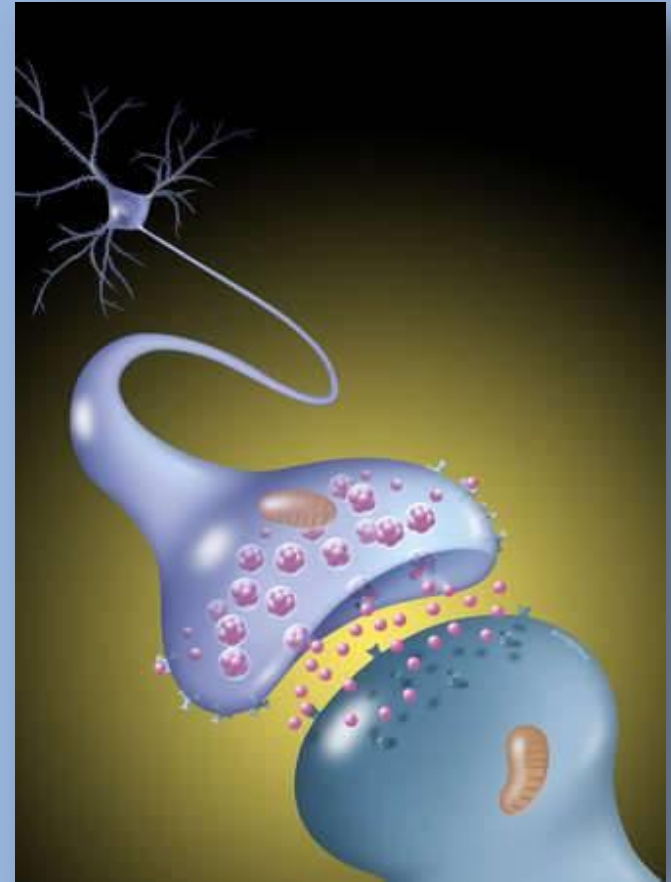
- **“USE IT OR LOSE IT”** – Reading, sports, music, video games, hanging out— whatever a child/teen is doing; these are the neural synapses that will be retained and those not worked get pruned away.
- Those neural synapses that are consistently used get hardwired into the brain through myelination.

Drive and motivation: The *what's important* filter



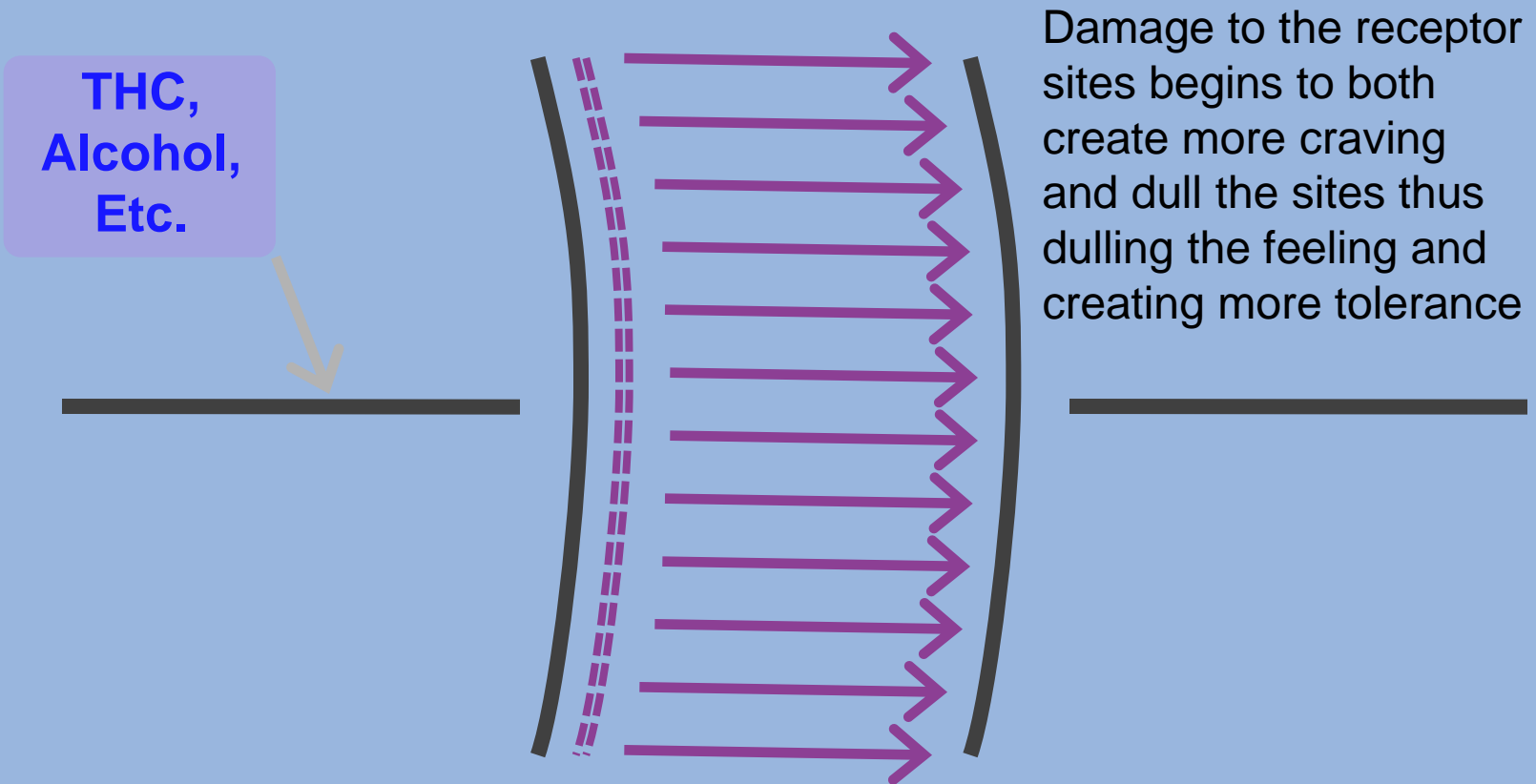
The Power of Dopamine

- The mind-body connection
- Training the brain
- Genetics
- The difference between Dopamine and Serotonin



Synaptic Space

A psychoactive drug can trick the brain into firing off dopamine.



This makes the drug take on importance.

Teens Have Work To Do

- Developing interests and passions
- Learning how to have good times with friends
- Learning how to deal with stress
- Developing social skills
- Building academic skills
- Answering the question “**Who am I?**”
- Experimenting with new activities

A Time for Building Strengths



Dopamine vs. Serotonin

- Dopamine produces a feeling of pleasure
- Serotonin produces a feeling of well being
- Difference between pleasure and happiness
- Developing skills, interest, relationships, meaning
- Resiliency

Marijuana and THC

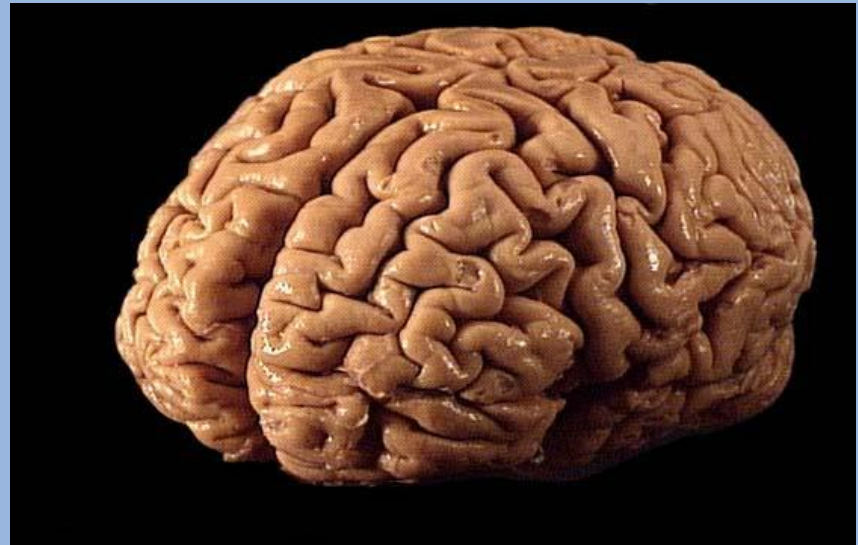


Increased THC Potency

- 60s – Hippies era 1-3% THC
- Vietnam era - 5-10% THC
- Post dispensaries – 20% -90% THC

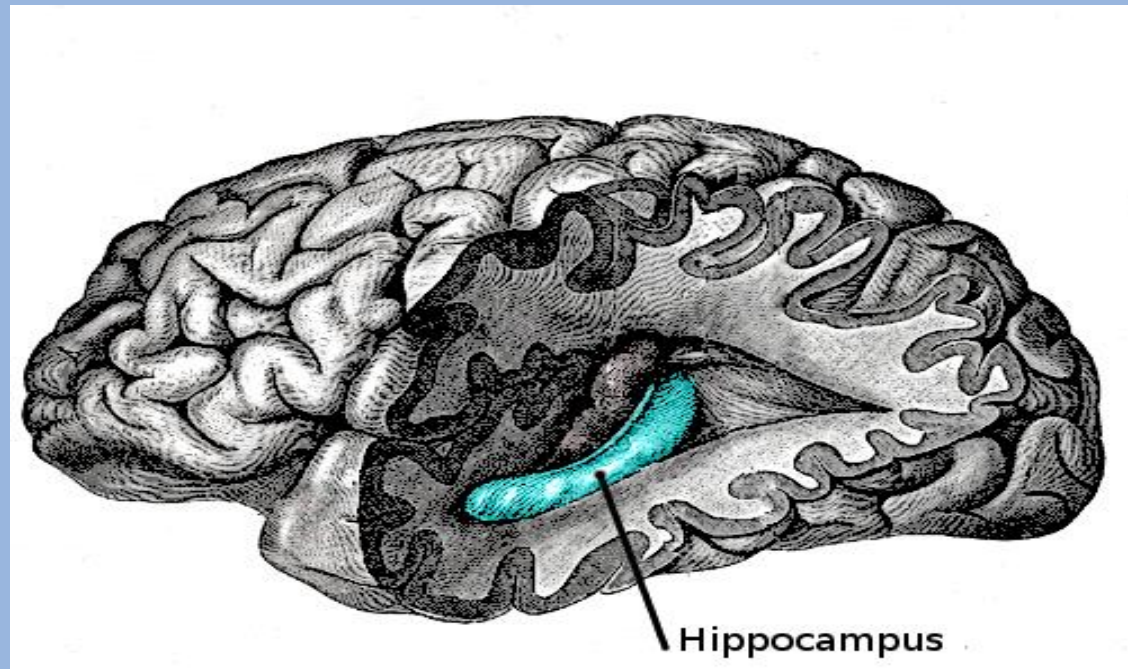
The Brain and Cannabinoid Sites

- Nucleus Accumbens
- Hippocampus
- Cerebellum

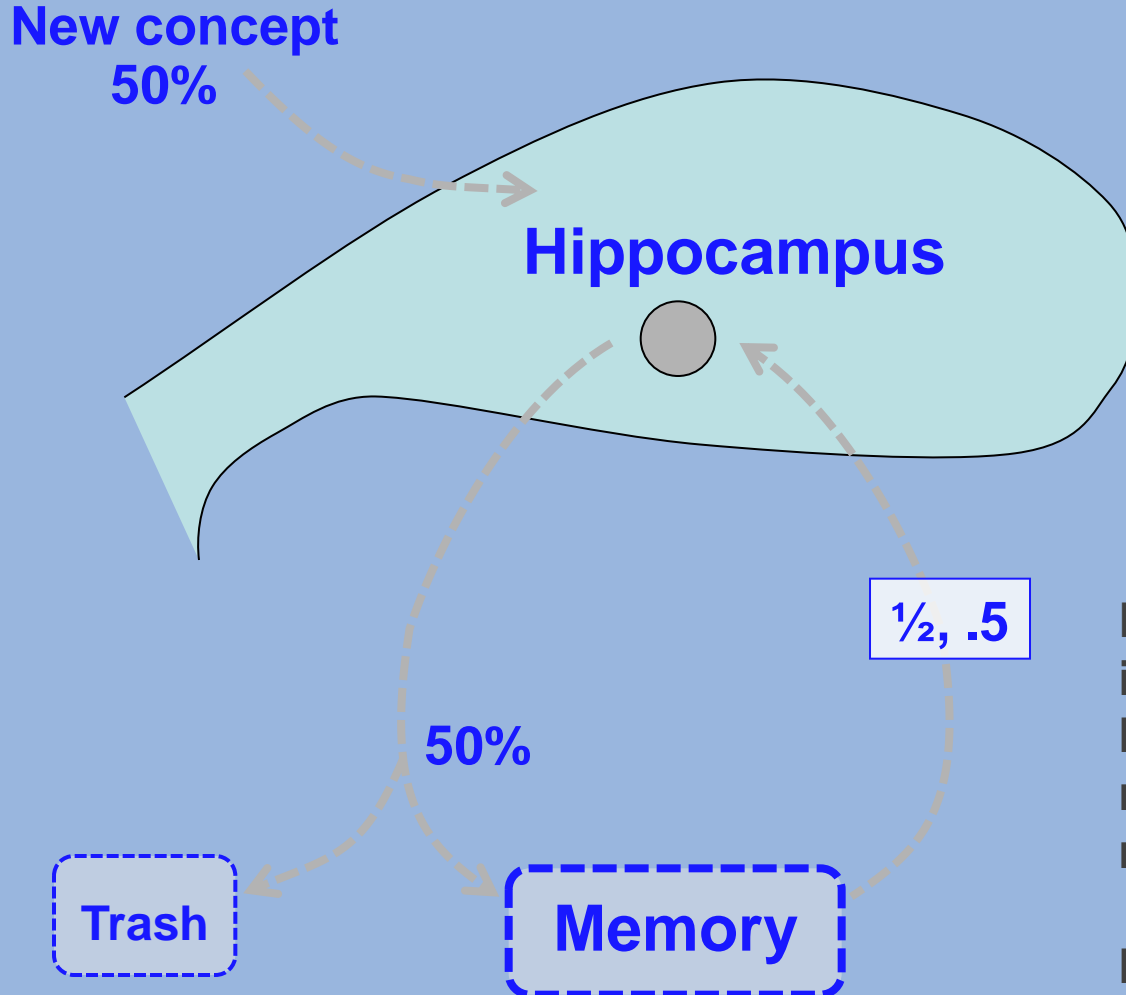


Hippocampus...say what?

- Retrieves relevant information
- Stores new info it deems relevant



Hippocampus



Pulls up relevant information we already know and puts relevant new information into memory.

Marijuana interrupts that process.

Cerebellum

- Controls internal and external coordination



Crossfading with Alcohol

- Alcohol is an anesthetic
- Uppers, Downers, All Arounders
- Marijuana is an all-rounder
- Xanax, hydrocodone are downers
- Crossfading
- The anesthetic effect of alcohol can be deadly when mixed with another downer.

Are adolescents more susceptible to alcohol than adults?

Most certainly YES

- Reduced sensitivity to intoxication
- Increased sensitivity to social disinhibitions
- Greater adverse effects to cognitive functioning

The Risk of Addiction

How well does the drug work?

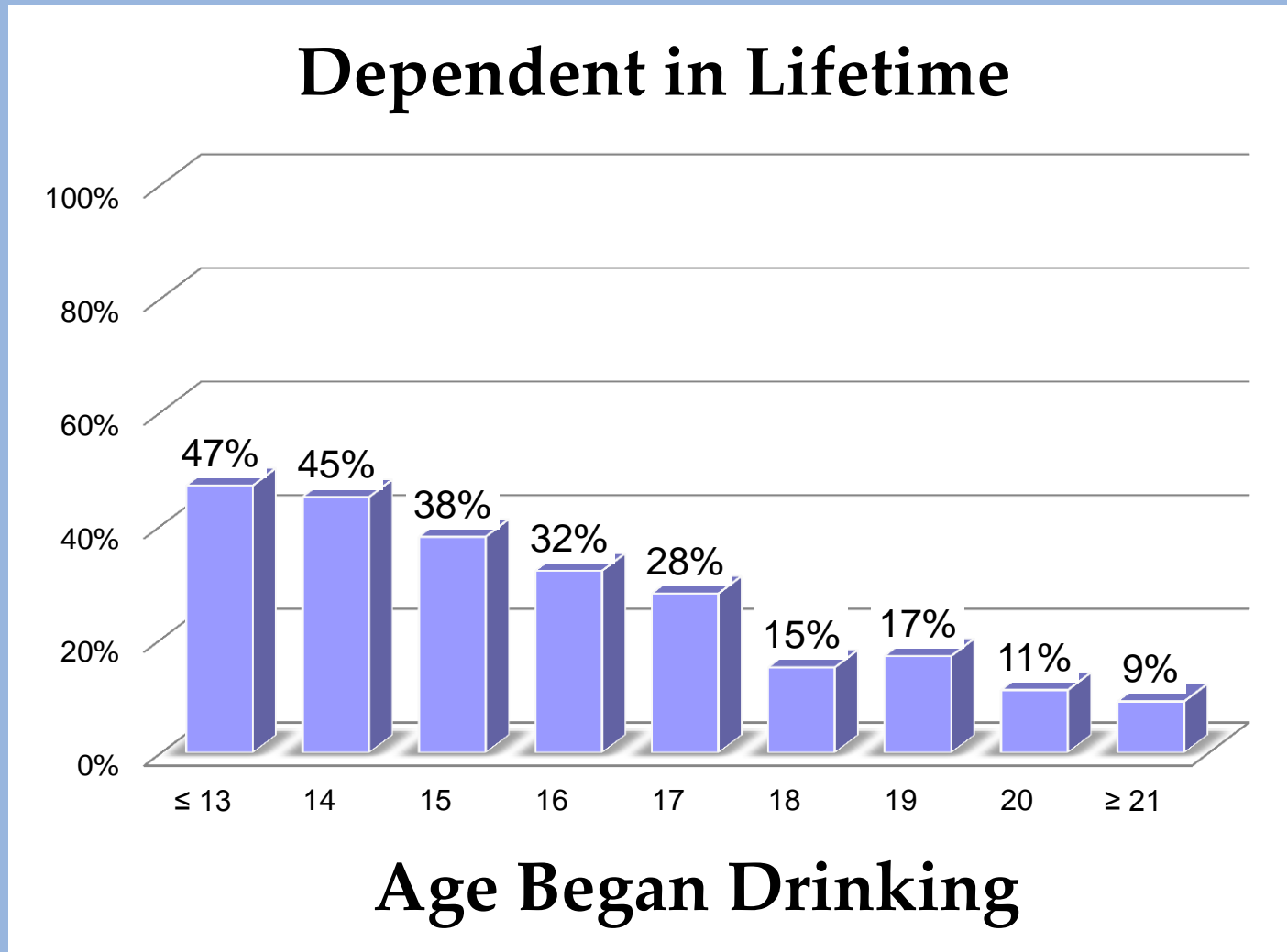
- Positive reinforcement = producing pleasure
- Negative reinforcement = boredom, anxiety, depression, or stress

Message from parent
to teen should be...

Wait!!!

Because...

Percentage of U.S. Adults Aged 18 and Older Dependent on Alcohol, By Age of Drinking Onset



Conversations with Youth for Change

- Employ deep listening
- Show unconditional positive regard
- Be real
- Collaborate and focus on strengths

Conversation Strategies

- Encourage them to talk about what they like about the drug
- See and trust the resilience of the young person
- Meet the youth at the stage of change they're at and try to move them forward
- Process is as important as the content

Questions???

- How do you let go of your own baggage?
- How does harm reduction fit in?
- How can I make sure I am nonjudgmental?
- How do I build credibility?
- What other drugs should I be concerned about?

Be Like Glinda



A Passage from the book “How Can I Help” by Ram Dass

- Pages 167 - 171

References

- Partnership for Drug Free Kids Website
- “Marijuana, What’s a Parent to Believe”, by Dr. Tim Cermak, Hazelden Press
- Ralph Cantor rjcantor@aol.com