

Adolescent Brain, Substance Abuse & Dating Violence



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**KATIE REILLY, MPH
ADOLESCENT HEALTH PROJECT COORDINATOR
STATE OF ALASKA – SECTION OF WOMEN'S, CHILDREN'S &
FAMILY HEALTH**



Background



- Adaptation of Dr. Linda Chamberlain's "The Amazing Brain, Substance Abuse, and Dating Violence" train-the-trainers' presentation.

The Amazing Adolescent Brain, Substance Abuse, and Dating Violence



Linda Chamberlain PhD MPH
Alaska Family Violence Prevention Project
State of Alaska, Chronic Disease Prevention and Health Promotion

Why Important?



- Why is adolescent brain development and the affects of substance abuse and dating violence on adolescent brain development a topic of importance to you?

Objectives



- Gain a better understanding of the adolescent brain.
- Link brain development understanding with adolescent behavior to improve communication and relationships.
- Explore adolescent vulnerability to substance use.
- Understand importance of talking with adolescents about dating violence.
- Learn how adults can help adolescents through this time of change and reach their full potential.

Adolescents are...



- Moody
- Risk takers
- Defiant
- Apathetic
- Rebellious
- Lazy
- Selfish
- Forgetful
- Irresponsible
- Curious
- Idealistic
- Energetic
- Sponges for learning
- Enthusiastic
- Creative
- Willing & excited to try new things
- Fun

Neuroscience Advancement



- We know much more about the developing brain today.
- Adolescent brain: a work in progress (until 25-years-old).
- Technology advancements:
 - MRIs (magnetic resonance imaging)
 - PET scans (positron emission tomography)
 - fMRI (functional magnetic resonance imaging)

Key Message

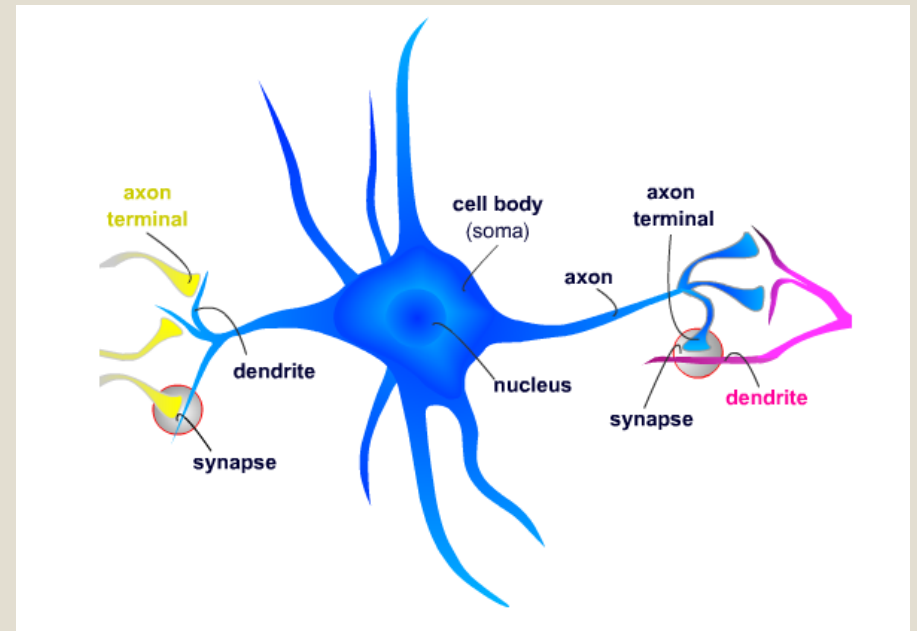


Changes occurring in the adolescent brain drive new behaviors, possibilities and purposes that are crucial steps in human development to reach their potential.

Brain Basics: 101



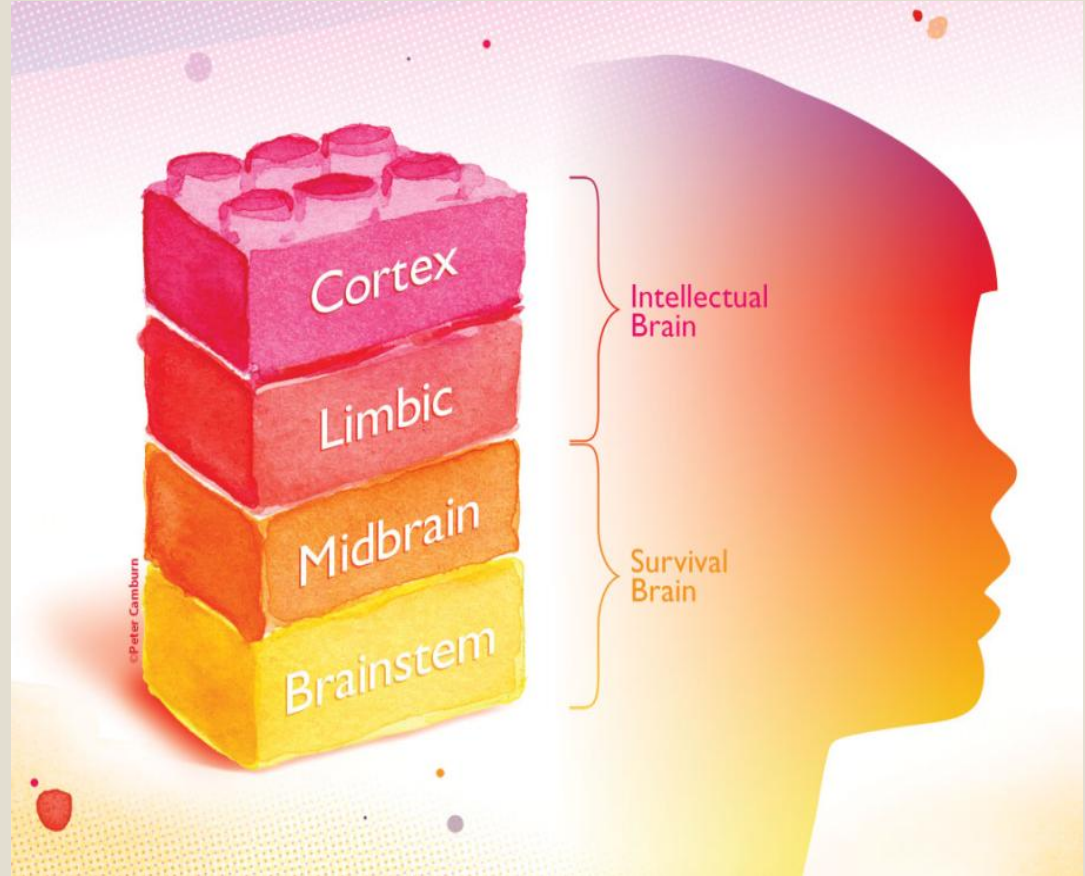
- Electrical system
- Consists of cell body, axon and dendrites
- Synapses is the region where impulses are transmitted and received



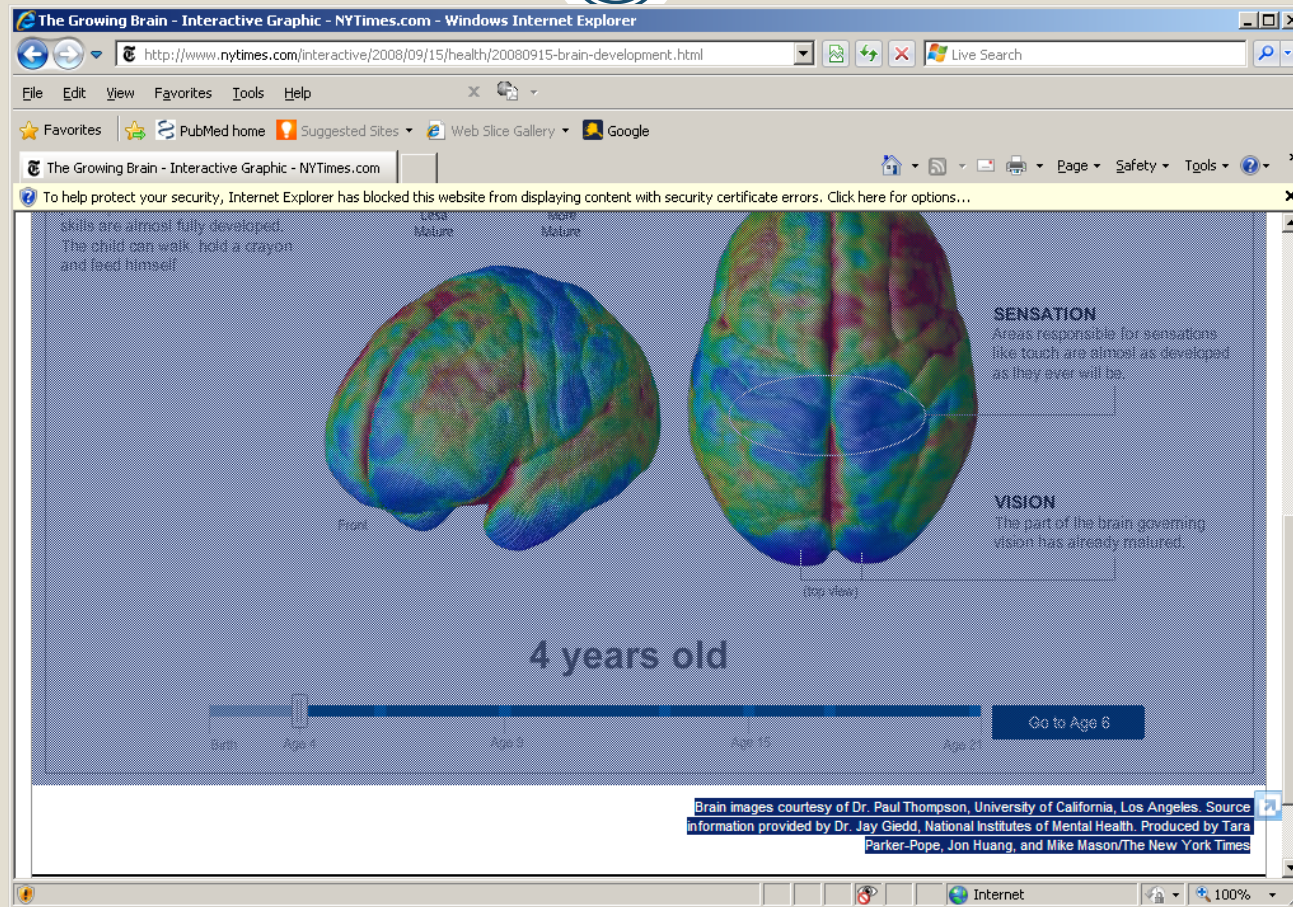
Brain Basics: 101



Abstract thought
Planning for future
Decision-making
Self-awareness & insight
Balancing emotions
Empathy
Memory
Attention
Emotions
Motor Regulation
Sleep
Digestion
“Staying alive” →
respiration, heart rate...



THE ADOLESCENT BRAIN: A WORK IN PROGRESS

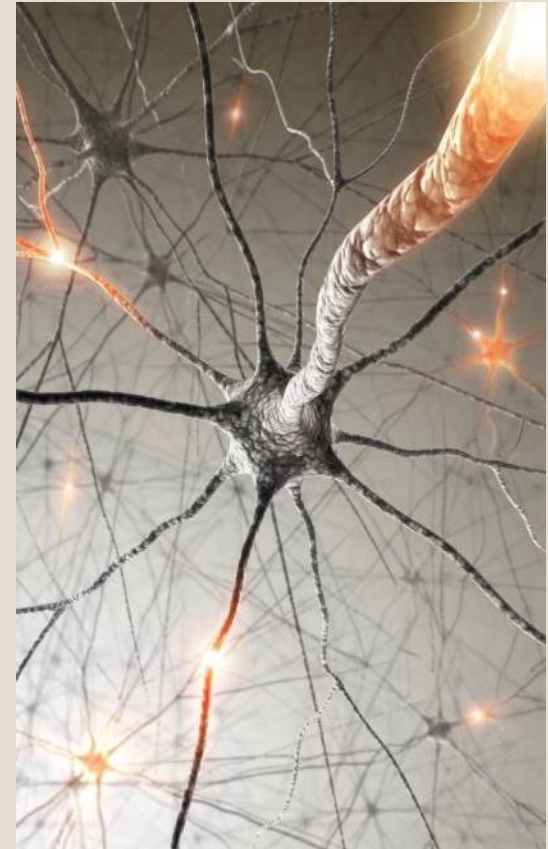


www.nytimes.com/interactive/2008/09/15/health/20080915-brain-development.html

Brain Basics: 101



- **Five Important Brain Processes:**
 1. Use it or lose it
 2. Blossoming and pruning
 3. The window of opportunity
 4. The window of sensitivity
 5. Myelination (insulation of nerve cells)



Source: Dr. David Walsh, *Why Do They Act That Way?* (2004)

Use It or Lose It



- 40% of brains neurons connected at birth while 60% are waiting for stimulation
- Synapses = wiring of brain
 - At Birth: 50 trillion
 - 1 year old: 1000 trillion
 - 20 years old: 500 trillion
- Survival of the busiest



Blossoming and Pruning and The Window of Opportunity & Sensitivity



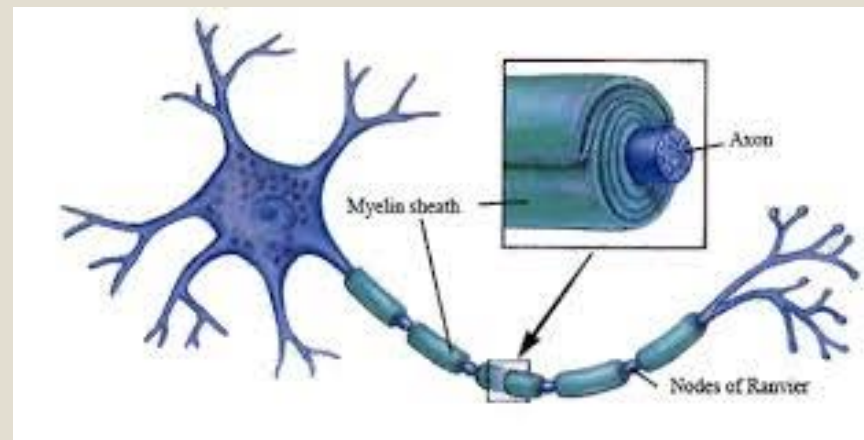
- Critical in brain development
- Enables the brain to wire the circuits via experiences:
 - good or bad



Myelination (Insulation of Nerve Cells)



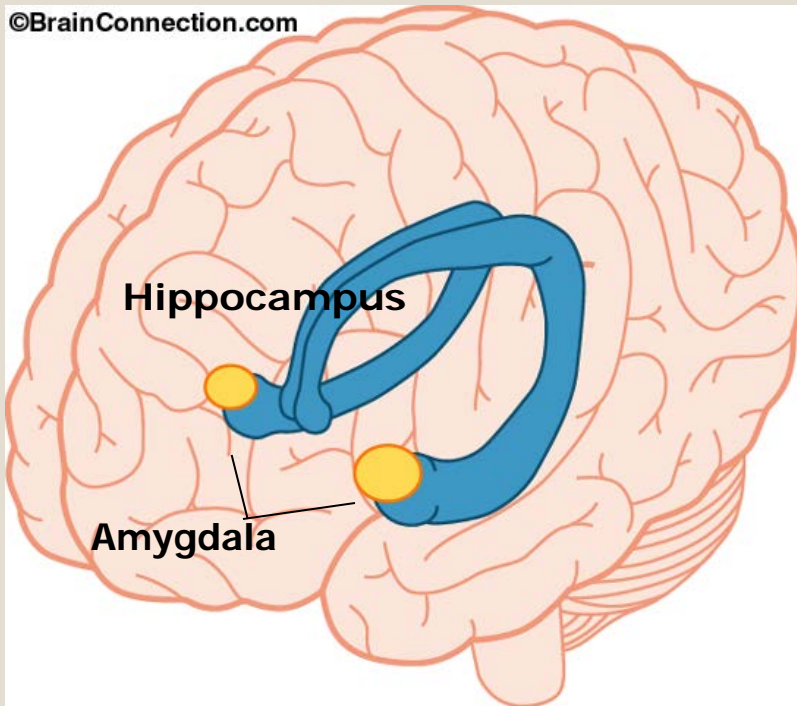
- Sheath covering membranes
- Increased coordination and efficiency
- Big picture thinking



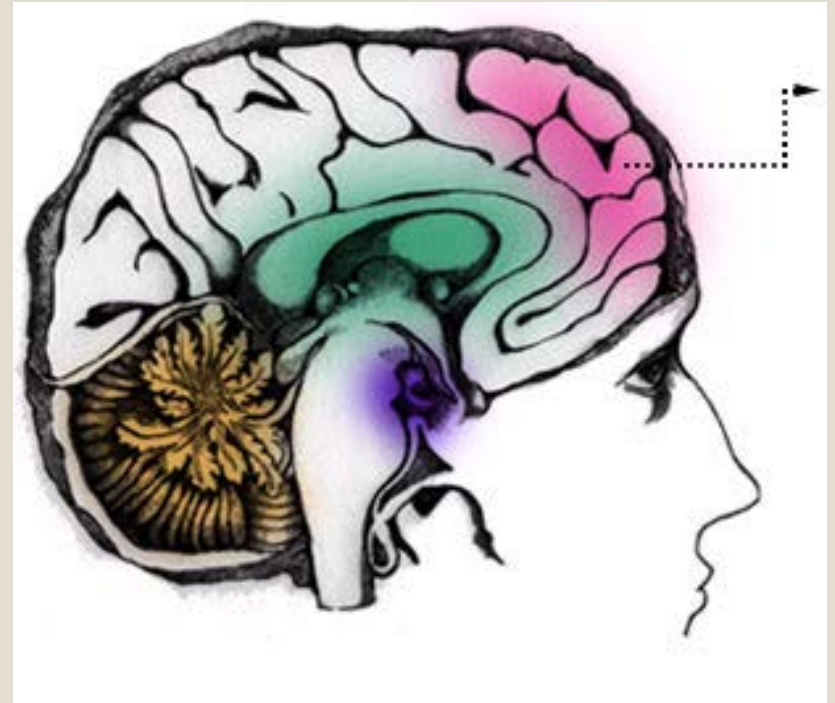
Brain Basics: 101



©BrainConnection.com

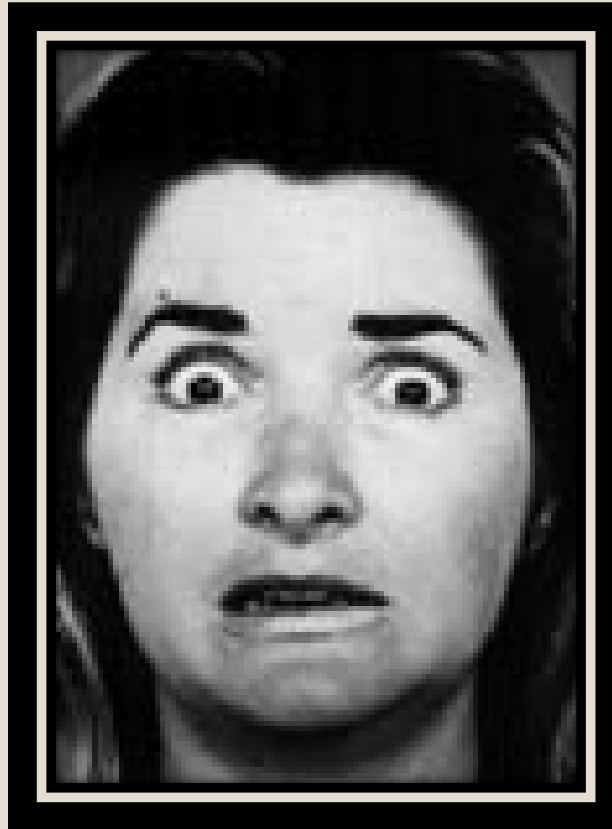


LIMBIC AREA



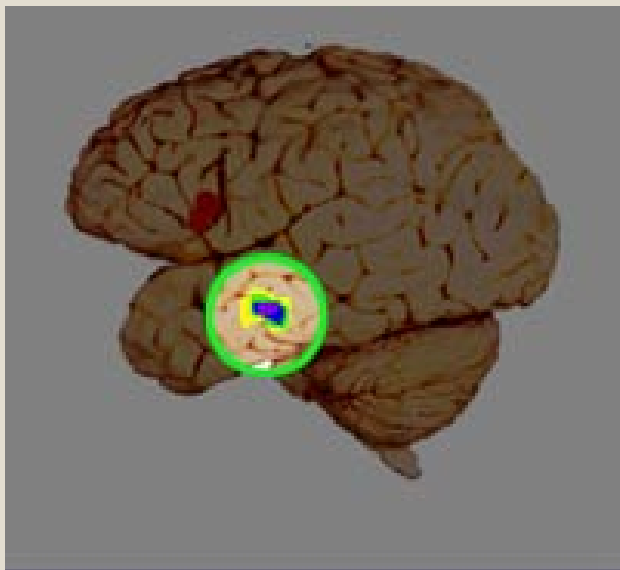
FRONTAL CORTEX

What emotion do you see?

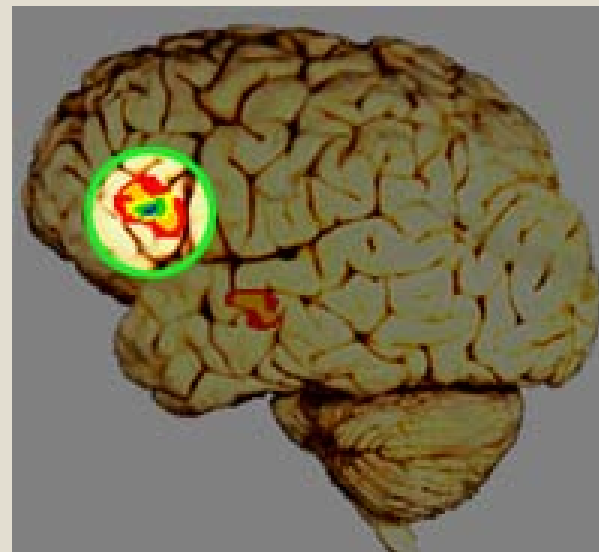


MRI Study by Yurgelun-Todd et al., 2000
Permission to used photo from Dr. Yurgelun-Todd

Focusing in Different Areas of the Brain to Interpret Emotions



Adolescent



Adult

Yurgelun-Todd, D. Frontline Interview; permission to use graphics from Dr. Yurgelin-Todd
<http://www.pbs.org/wgbh/pages/frontline/shows/teenbrain/interviews/todd.html>

Expressing Anger Constructively



- Tell the person how you feel: “I’m...”
- Identify the specific event that led to how you are feeling: “I’m feeling ___ because...”
- Explain what the event produced that feeling (how it effected you): “The reason I feel ___ is that....
- Explore what the options are to address the problem and make a plan: “What can we do to solve this...?”

Don’t Forget Your Q-TIP!

Essential Communication Tools



1. Less is more---use fewer words!
2. Use “I” statements to talk about your feelings
3. Be aware of your body language and expressions
4. Use open-ended questions to ask ***what a teen is feeling***
5. Validate feelings without judgment
6. Timing is everything
7. Time-out is for teens and adults!
8. Practice active listening

What does the teen brain need?



- Lots of hands-on, skill-based learning
- Opportunities to discover and pursue new interests
- Opportunities to practice personal control, decision making and leadership
- Tools to build brain connectivity and manage stress
- To be honored for their creative and innovative thinking
- Supportive adults willing to listen

Substances & The Developing Brain



Among Alaskan public high school students:

- **28.6%** had at least one drink in the past 30 days
- **16.7%** had 5 or more drinks within a couple hours on one or more of the past 30 days

www.hss.state/us/dph/chronic/school/YRBSresults.htm

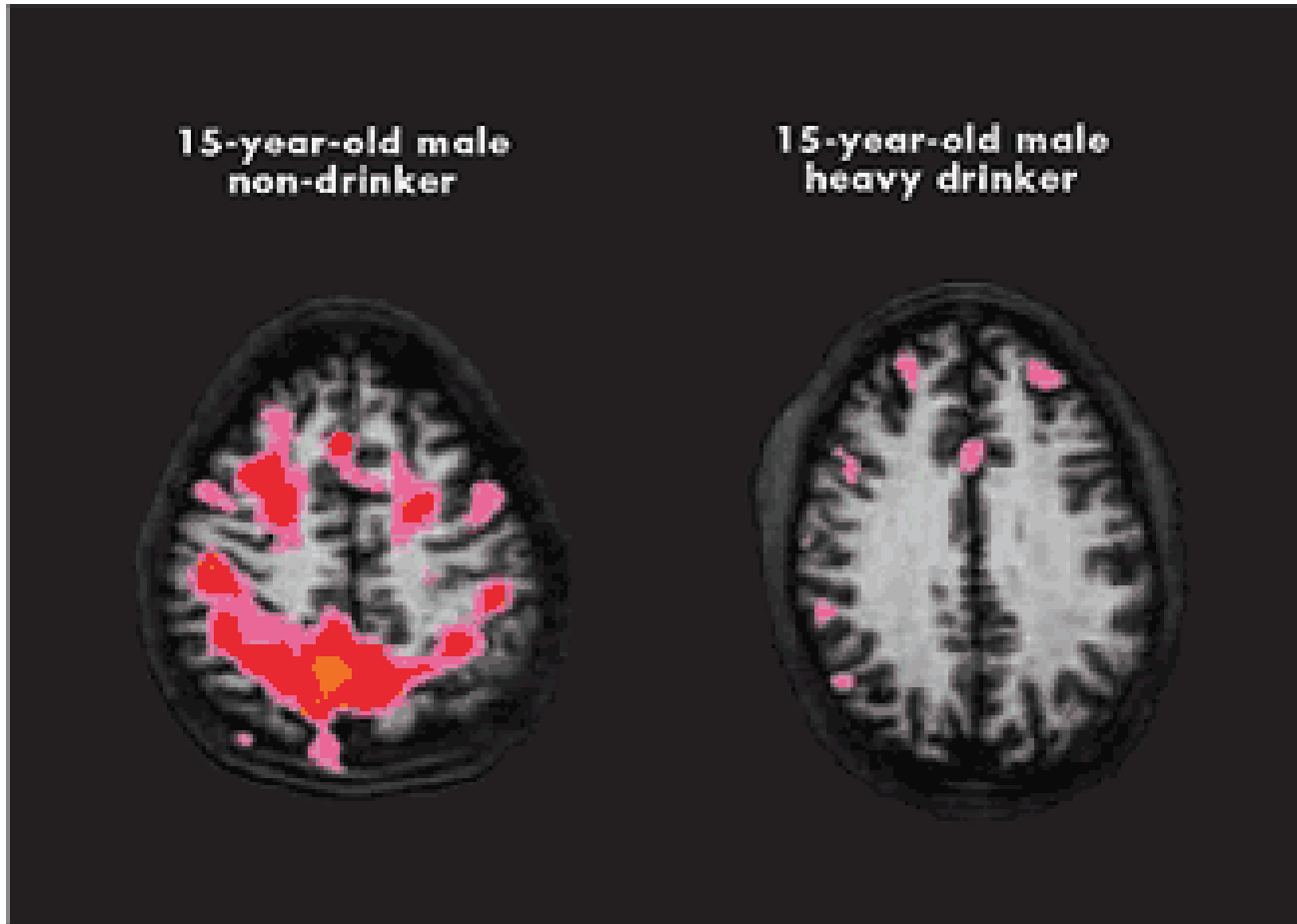
Adolescents are affected differently by repeated, heavy drinking



- Increased vulnerability to black-outs
- Higher levels of alcohol-impaired memory among younger adults
- Reduced sensitivity to the sedative effects of alcohol
- Reduced sensitivity to the effects of alcohol on motor coordination

Brown et al, 2000; Brown et al, 2001; Wuethrich B, 2001; Swartzwelder et al, 1995; White AM, 2002

Substances & The Developing Brain



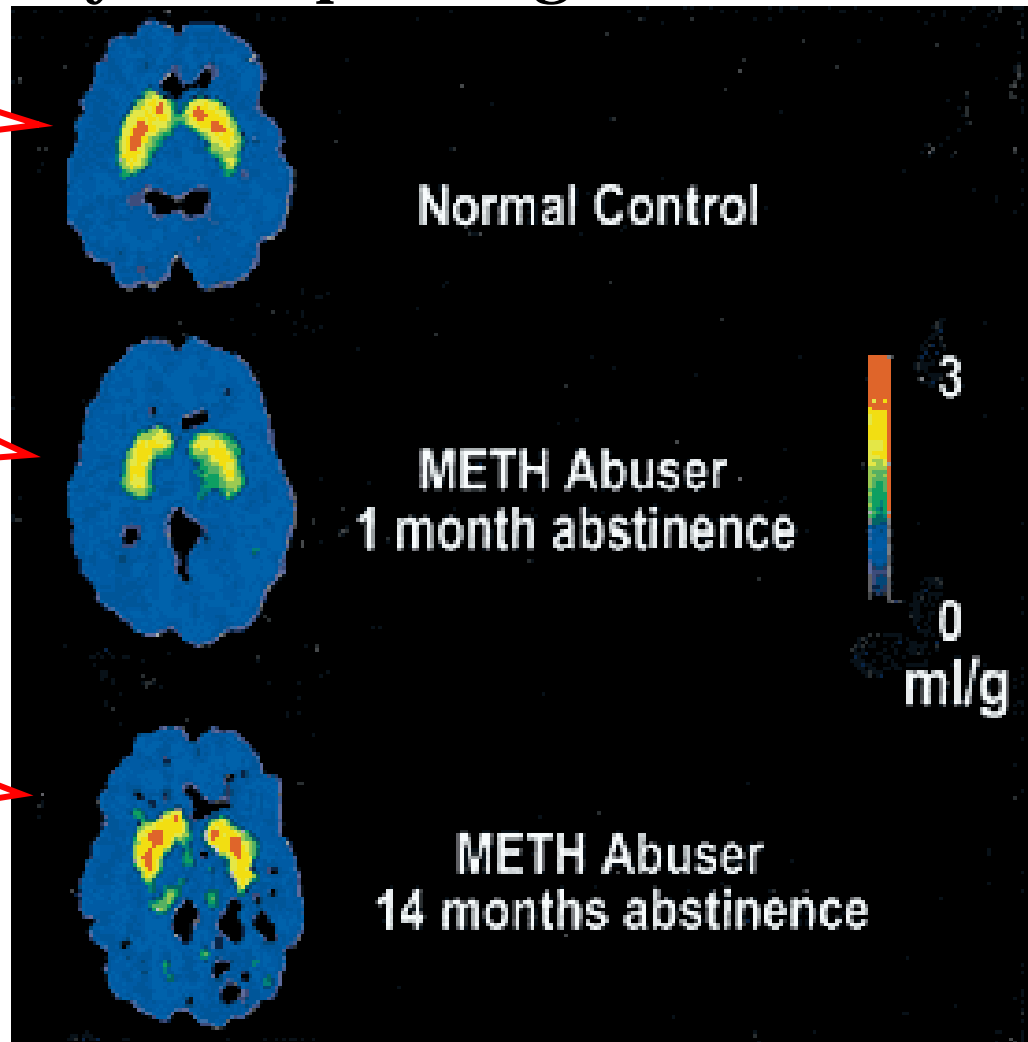
Permission to use brain scan provided by Dr. Susan Tapert University of CA, San Diego, CA

Depleted dopamine transporters (DAT) in METH abusers show recovery after prolonged abstinence.

Normal DAT levels as seen in PET scans show up in yellow to red

Reduced DAT levels in METH abusers after one month of abstinence

Significant recovery of DAT levels can be seen after 14 months of abstinence



The Journal of Neuroscience, 21(23):9414-9418. 2001

Adolescent Substance Abuse Screening Tool: CRAFT



1. Have you ever ridden in a **CAR** driven by someone (including yourself) who was 'high' or using alcohol or drugs?
2. Do you ever use alcohol or drugs to **RELAX**, feel better about yourself, fit it?
3. Do you ever use alcohol or drugs while you are by yourself, **ALONE**?
4. Do you ever **FORGET** things you did while using alcohol or drugs?
5. Do you or your family or **FRIENDS** ever tell you that you should cut down on your drinking or drug use?
6. Have you ever gotten into **TROUBLE** while you were using alcohol or drugs?

Knight et al, 2007

Dating Violence: The Hidden Adverse Childhood Experience (ACE)



- **13.3% of Alaskan high school students** have been physically hurt by a dating partner in past 12 months (AK YRBS, 2009)
- Nearly half of the worst incidents of dating violence occur at school (Molidor et al, 2000)

Small group Discussion: Fact sheets at www.futureswithoutviolence.org

What are some of the health and behavioral effects on dating violence on teens?



- Sexually transmitted infections
- Tobacco use
- Alcohol and drug use
- Depression
- Suicidality
- Unintended pregnancies

www.futureswithoutviolence.org

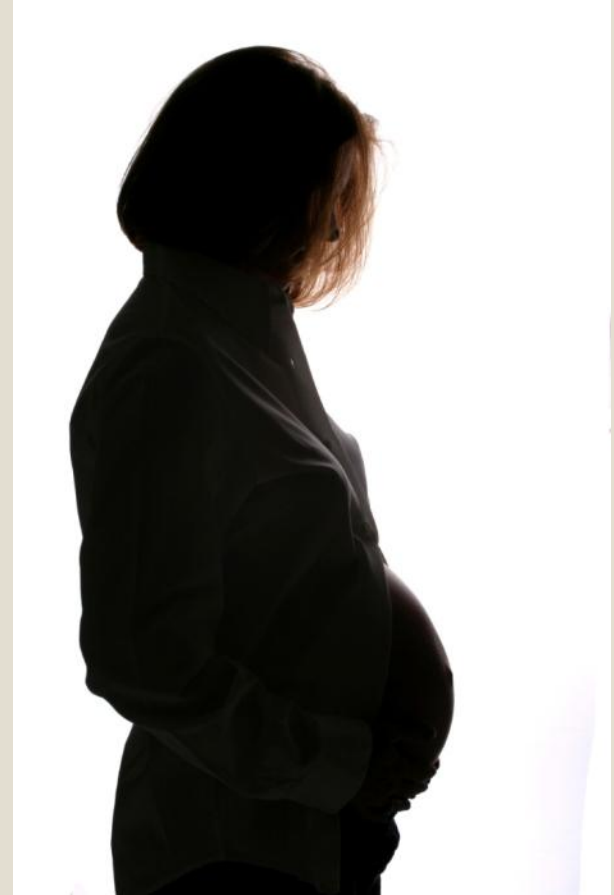
Dating violence fact sheet discussion

Dating Violence and Teen Pregnancy



- Adolescent girls who experience physical or sexual dating violence are 6 times more likely to become pregnant than their non-abused peers.

(Silverman et al, 2001)



Digital Abuse is Common in Unhealthy Teen Relationships

Examples include:

- Writing something online that wasn't true
- Sharing information that a person didn't want shared
- Writing something mean
- Spreading false rumors
- Threatening physical harm
- Impersonation
- Posting embarrassing photos or video
- Being pressured to send naked photos
- Encouraging people to hurt themselves

SEXTING = act of sending sexually explicit messages or photos electronically

source: www.AThinLine.org

Resources



talk now
talk often ^{AK}
TALKING WITH TEENS

Free Safety Card for teens on the dynamics of healthy and unhealthy relationships
available at www.futureswithoutviolence.org

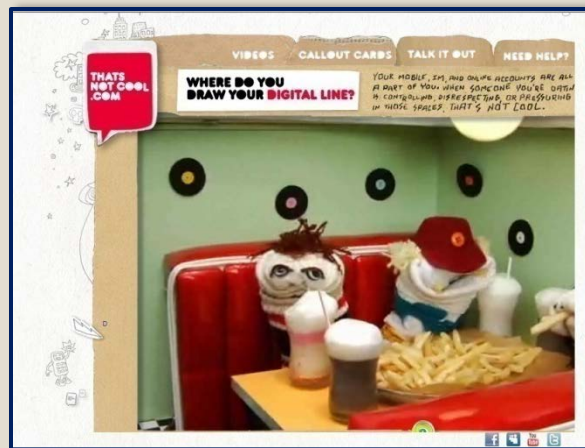
Talk Now Talk Often Cards available at: <http://www.tntoak.org/>

On-Line Resources for Youth



burstingthebubble.com

Informational website for children exposed to IPV



ThatsNotCool.com

Multi-media campaign to educate teens about dating violence

What Schools and Educators Can Do



- Do you have data so that you can track trends?
- Are there definitions for cyberbullying and digital abuse?
- Is there a school-wide reporting system?
- Are there any resources for parents?
- Are these issues discussed in the classroom?
- Are there student mentors who can work with classmates and younger students? (i-safe.org)

Cyberbullying by Kowalski, Limber & Agatston, 2008;
Bullying: Beyond the Schoolyard by Hinduja & Patchin, 2009

Suggestions for Caregivers

DO

- Use “I” statements to describe your concerns
- Have specific examples to share about your concerns
- Be prepared to hear uncomfortable details
- Be a supportive comfort zone
- Help teen with safety plan and referrals

DON'T

- Don't be critical of teen or their partner
- Don't ask blaming questions
- Don't pressure teen into making quick decisions
- Don't talk to both teens together

What Can We Do?



1. Help teens to understand they have the right to be safe and to say no in their relationships.
2. Recognize that high-risk youth are more likely to experience dating violence.
3. Make the connection between dating violence and risk behaviors (substance abuse, suicide risk).
4. Teach teens media literacy on how gender stereotyping and violence influence their beliefs and values.
5. Talk with teens about healthy relationships.

Questions and Discussion



THANK YOU!



CONTACT INFO

KATIE REILLY
(907) 469-4921
KATIE.REILLY@ALASKA.GOV

