

Teens Hooked on Casual Sex

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The Questions

- What happens inside the brain when teens have sex?
- How they can successfully handle the challenge for a lifetime of healthy living?

What Is Sex?

Sexual activity is defined as any bodily contact meant to derive or give sexual gratification.

- Horan PF, et al. 1998 J HIV/AIDS Prev and Educ for Adolescenc and Children

Physical Consequences of Sexual Activity

- Sexually Transmitted Infection
 - Sexually Transmitted Diseases
 - Infertility
 - Cancer
 - Death
- Nonmarital Pregnancy

Teen Pregnancy ¹

- More than 700,000 teens become pregnant each year.
- 34% become pregnant at least once before age 20
- .
- 80% of teen fathers don't marry the teen mother of their baby.
- 70% of unwed mothers receive no financial support from the fathers of their children
- 80% of unwed teen mothers eventually receive welfare.
- <66% of teen mothers graduate from high school or earn a GED within two years of giving birth.

¹ McIlhaney and Bush, Hooked, 2008

Emotional Consequences of Sexual Activity

- Pain and suffering from broken relationships
- Fear, confusion about romantic feelings
- Altered self-esteem
- Sense of betrayal and abandonment
- Guilt, depression and emotional rollercoaster
- Impaired ability to form healthy long-term relationships

United States STD SURVEILLANCE, 2007

STI	INCIDENCE	PREVALENCE
HPV	5.5 million	20 million
Trichomonas	5 million	unknown
Chlamydia	3 million	2 million
Genital Herpes	1 million	45 million
Gonorrhea	650,000	unknown
Hepatitis B	120,000	417,000
Syphilis	70,000	unknown

STD Cases for 2008

Statistics in Mississippi

- Chlamydia 21,261
Annual rate 723.5/100,000
Ages 15-24 76% of total
- Gonorrhea 7497
Annual rate 255.1
Ages 15-24 67%
- Syphilis 418 (Early)
Annual Rate 14
Ages 15-39 71%

Aids Cases

Annual Rate By Metropolitan

1.	Washington DC	62.3
2.	New York, NY	60.4
3.	Miami, FL	49.5
4.	Baton Rouge, LA	49.5
5.	West Palm Beach, FL	48.6
6.	Fort Lauderdale, FL	44.1
7.	New Orleans, LA	39.1
8.	State of Mississippi	21.0

HIV/Aids Cases

Statistics in Mississippi

- HIV diagnosis in 2008 606
- HIV diagnosis in 2007 611
- Increase in diagnosis ages 15-24

African Americans accounted for 79%
of new cases

WHY?

**SEX
LIES**

It wasn't really sex—

...just oral sex

...just anal sex

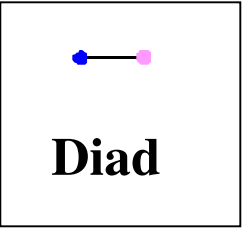
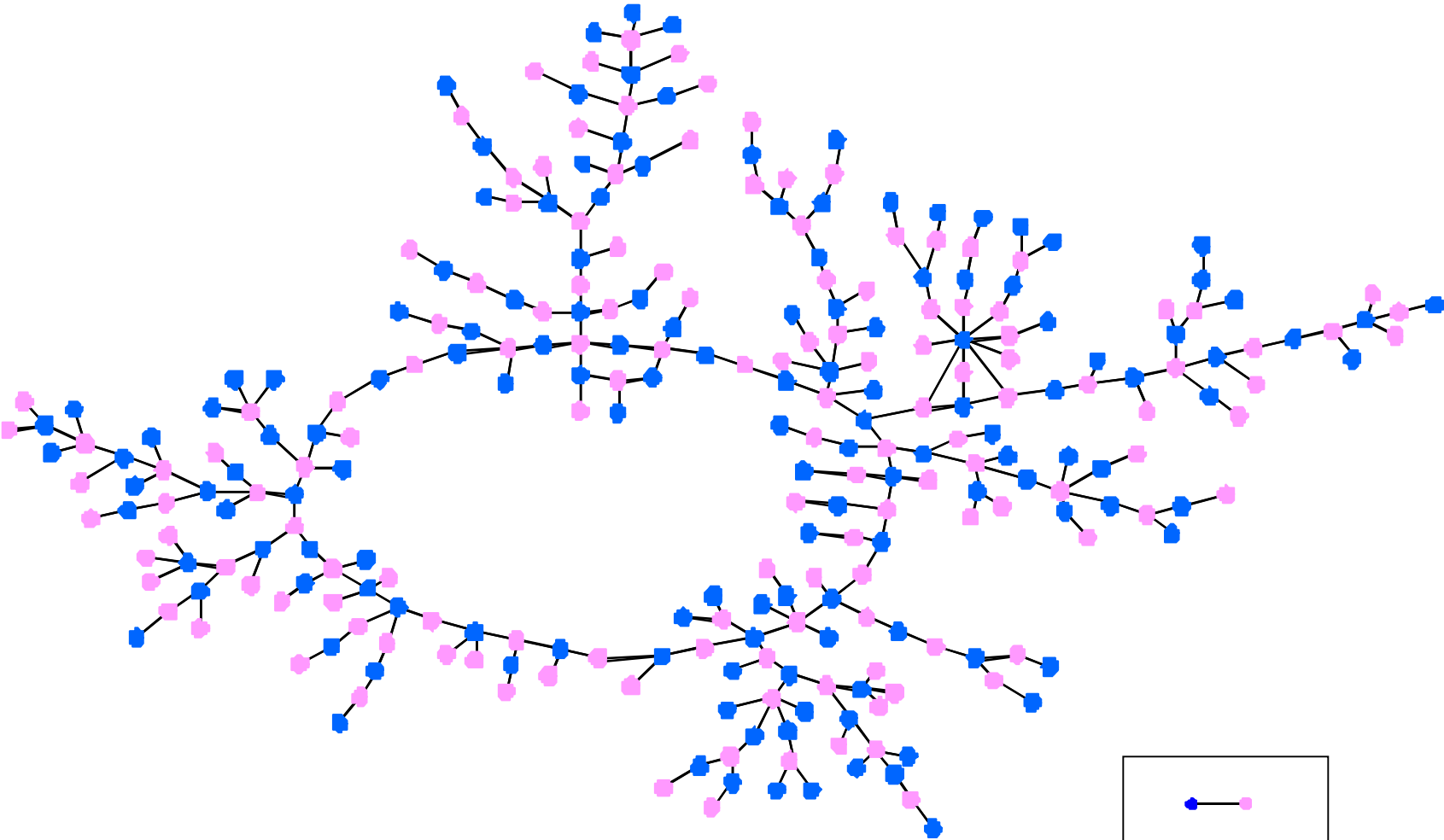
...just outercourse

Asymptomatic Carriers¹

- Chlamydia _ 75% of girls; 50% of boys
- Gonorrhea _ 50% of girls
- HSV-2 _ 90% of people
- HPV _ >90% of people
- HIV _ 25% of people

1. Obstetrics and Gynecology, Audio Digest, Vol 55, Issue 8, 2008

Spanning Tree Sexual Network (n=286)



Bearman, Moody, & Stovel. 2004

Syphilis



**Primary
Chancres**



HPV and Anogenital Warts

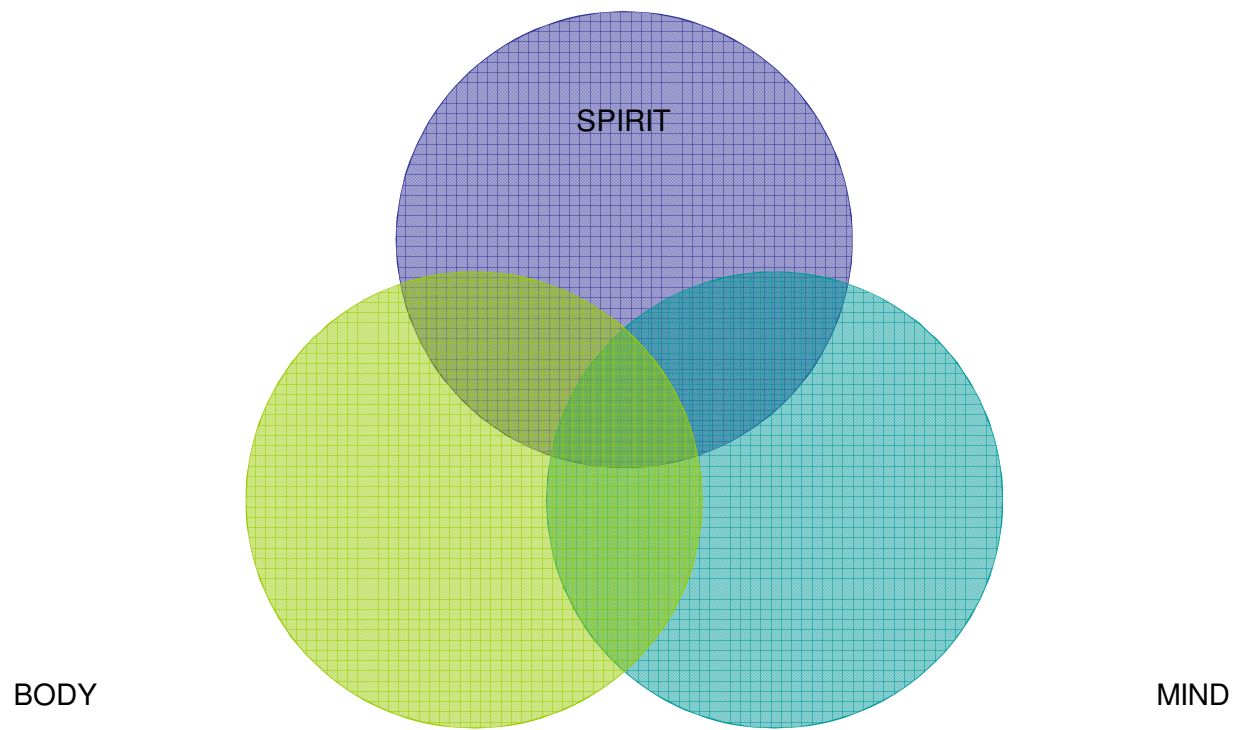


Genital warts

- HPV 6 and 11 responsible for >90% of anogenital warts¹
- Infectivity >75%²
- Up to 30% spontaneously regress within 4 months.³
- Treatment can be painful and embarrassing.⁴
- Topical and surgical therapies are available for genital warts.⁵
- Recurrence rates vary greatly.⁵

1. Jansen KU, Shaw AR. *Annu Rev Med.* 2004;55:319–331. 2. Soper DE. In: Berek JS, ed. *Novak's Gynecology.* 13th ed. Philadelphia, Pa: Lippincott Williams & Wilkins; 2002:453–470. 3. Lacey CJN. *J Clin Virol.* 2005;32(suppl):S82–S90. 4. Maw RD, Reitano M, Roy M. *Int J STD AIDS.* 1998;9:571–578. 5. Kodner CM, Nasraty S. *Am Fam Physician.* 2004;70:2335–2342.

What happens inside the brain
when teens have sex?



The Brain

**Parietal
Lobe**

**Occipital
Lobe**

Cerebellum



**Frontal
Lobe**

Brain Stem

One Fundamental Understanding of Brain Development –

The prefrontal cortex is not fully
mature until the mid-twenties¹

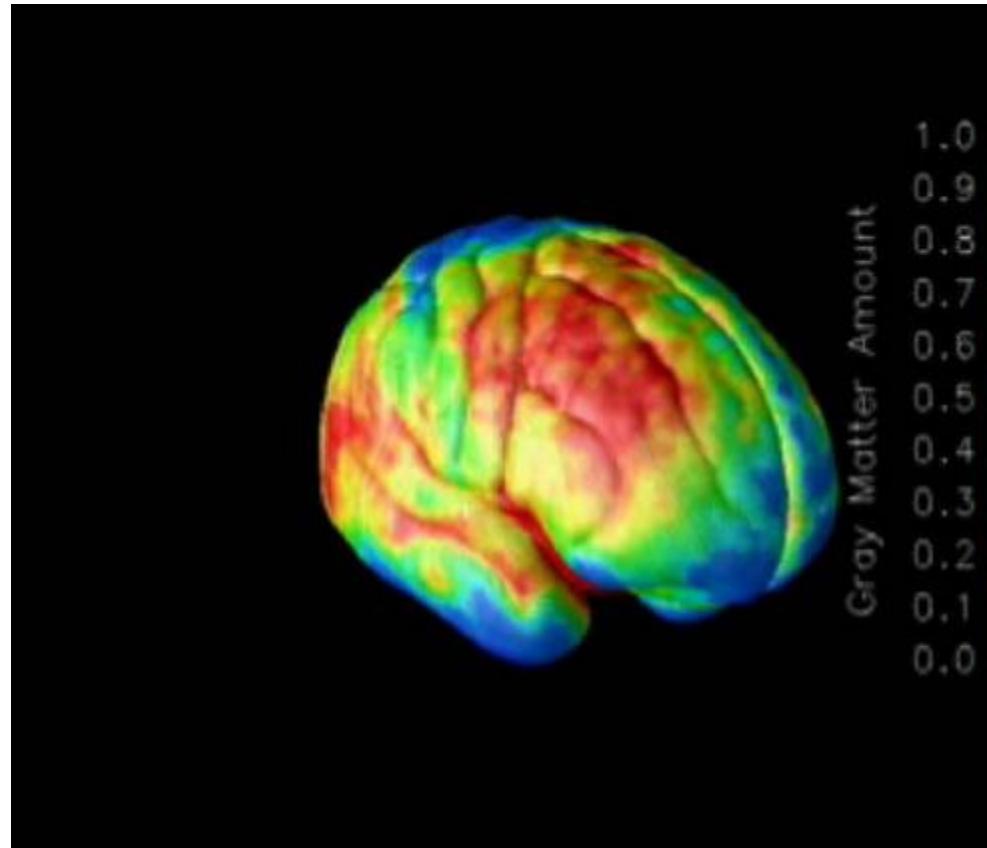
1. Giedd, et al. Nature Neuroscience, 1999
2. Weinberger, et al. The Adolescent Brain, 2005

The prefrontal cortex is the source of

- Judgment
- Seeing into the future
- Seeing how behavior can affect the future
- Moral intelligence
- Abstract thinking
- Seeing what is not obvious
- Planning for the future
- Rational behavior and decision making
- Understanding rules of social conduct

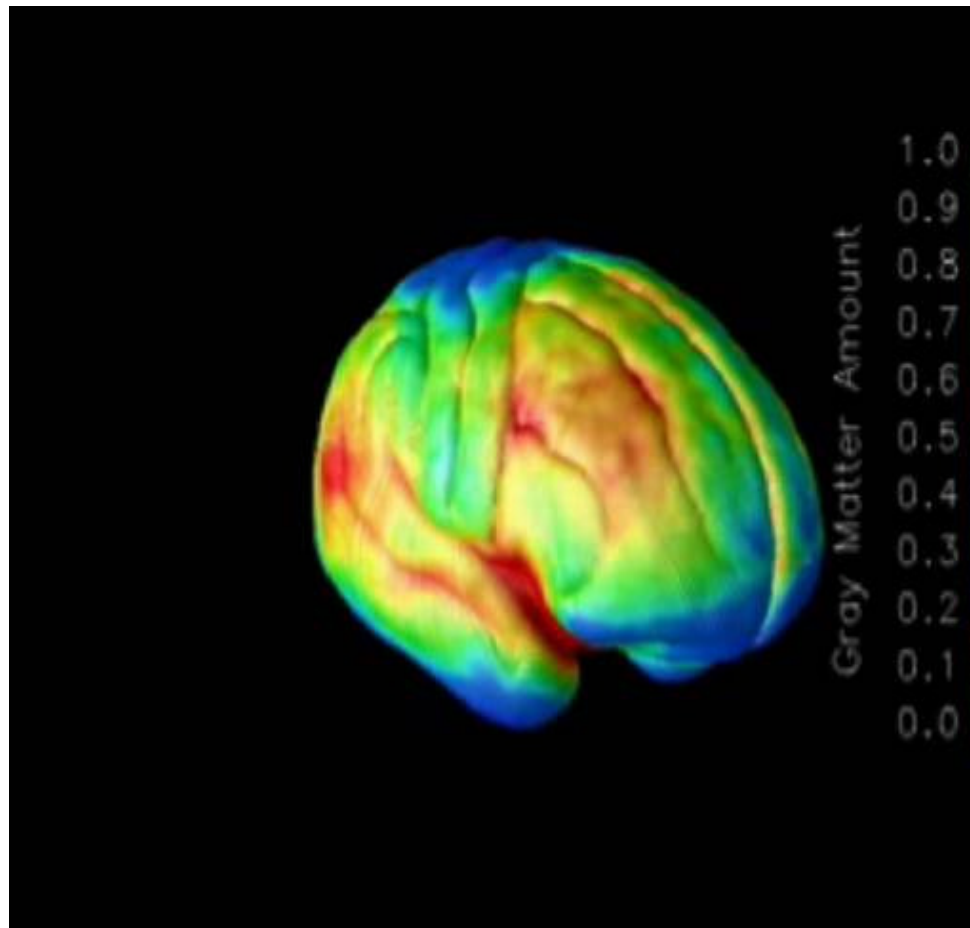
1. Giedd, et al. Neuroscience, 1999
2. Weinberger, et al. The Adolescent Brain, 2005.

Brain Development – Age 5



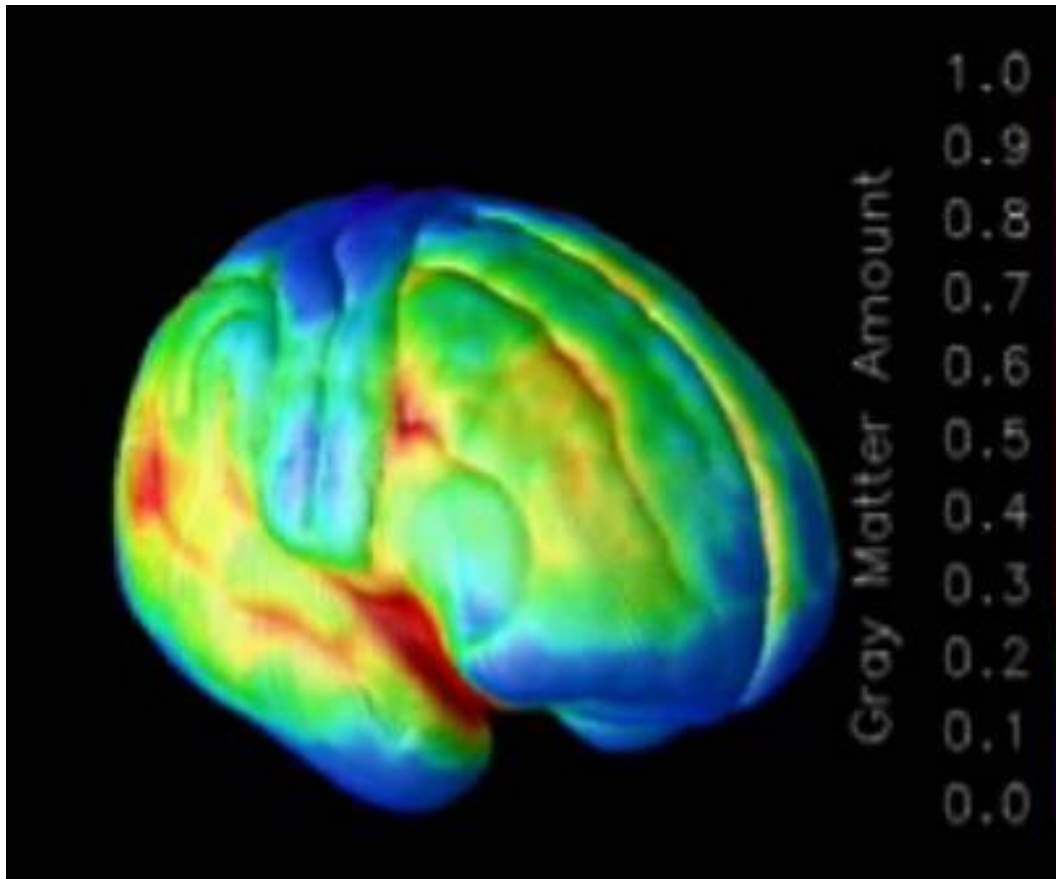
Images courtesy of Jay Giedd, MD, National Inst of Mental Health

Brain Development – Age 8



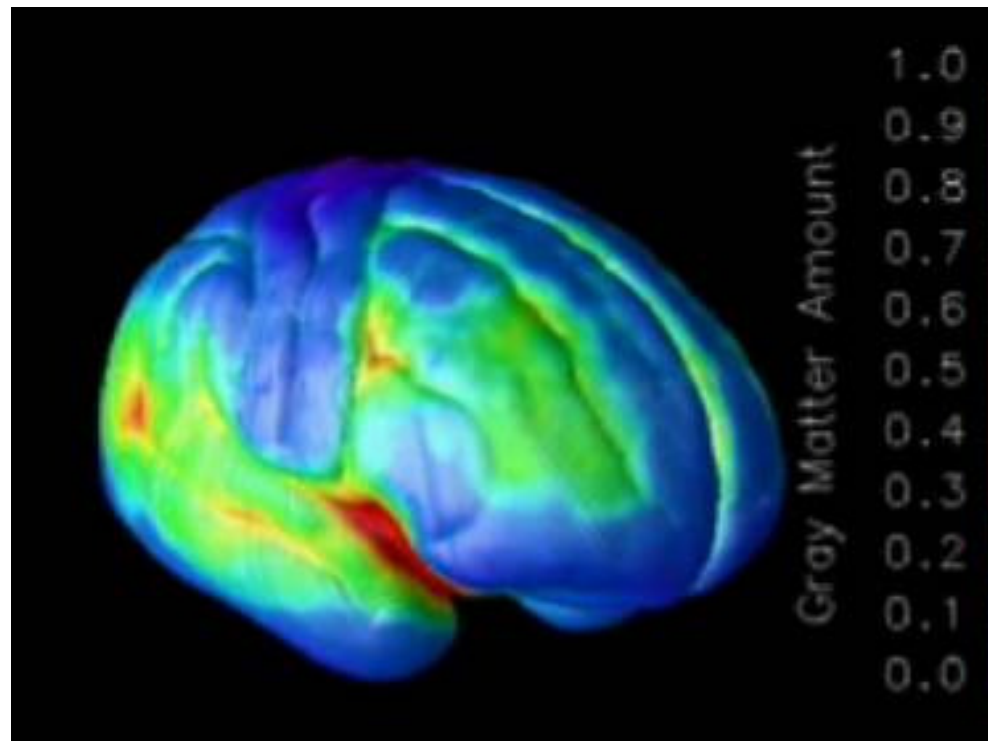
Images courtesy of Jay Giedd, MD, National Inst of Mental Health

Brain Development – Age 12



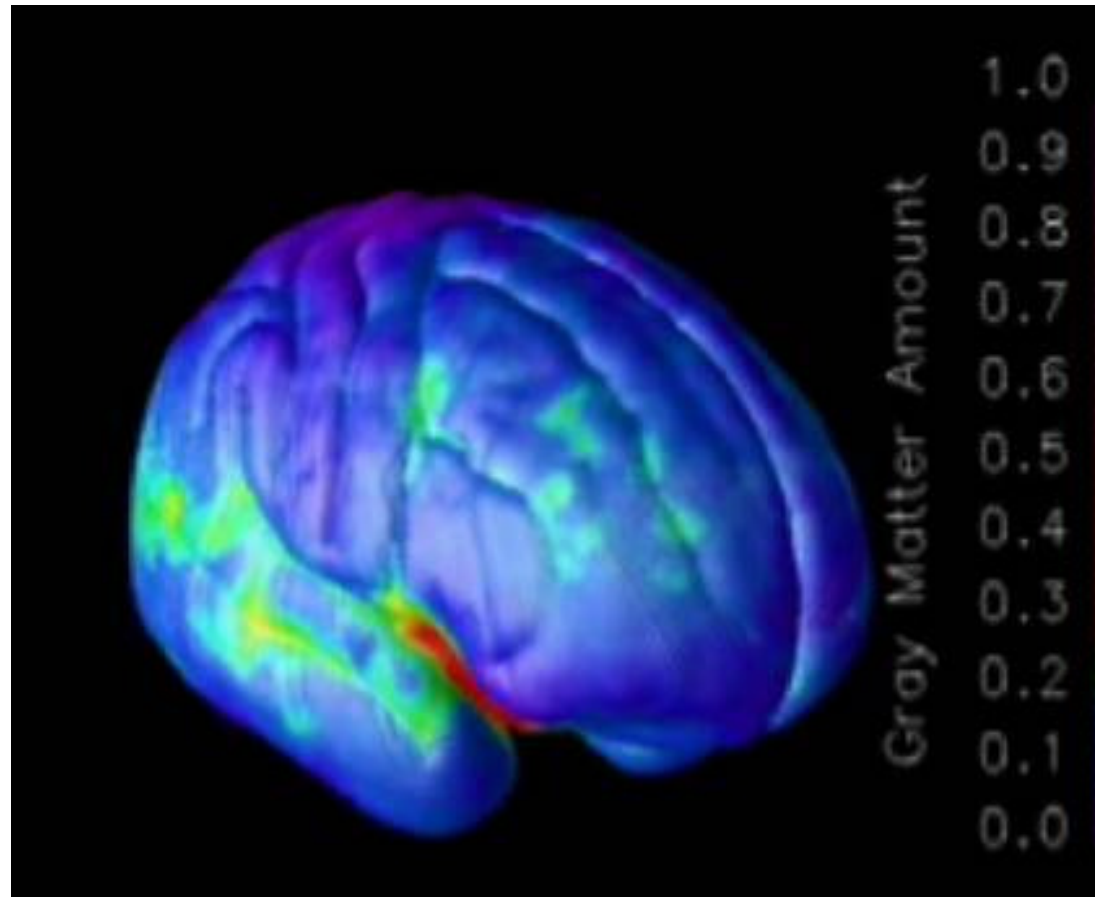
Images courtesy of Jay Giedd, MD, National Inst of Mental Health

Brain Development – Age 16



Images courtesy of Jay Giedd, MD, National Inst of Mental Health

Brain Development – Age 20



Images courtesy of Jay Giedd, MD, National Inst of Mental Health

What The Anatomy Doesn't Show- Neurochemicals

- More than 100 have been identified
- Receptors must be present in the brain for these substances to be active – the more receptors, the more active.
- They have a powerful impact on our cognition and behavior and ultimate brain structure

Dopamine

- Dopamine is secreted into the brain in response to:
 - Excitement
 - Pleasure
 - New things
 - Adventure
 - Risk taking
 - Addictive drugs

Volkow (referenced in The Primal Teen, p. 94)

Oxytocin and Vasopressin

- Sexual intercourse releases large amounts of oxytocin into the female brain and vasopressin into the male brain
- Both hormones promote bonding with a sexual partner¹

1. Lechman, 1999

2. Brizendine, 2007, p. 71

Oxytocin and Vasopressin Impact

Even if you don't particularly feel attracted to someone, if you have enough sexual stimulation with them, oxytocin and vasopressin may cause an

“involuntary chemical commitment”

or

strong emotional attachments.

Lust, Infatuation and Mature Love

- Each of these result in dynamic and visible brain activity
- Each of these produce activity in different areas of the brain

Strauch. "The Primal Teen", 2003

Leckman. Child Adolesc Psychiatry. elin N Am. 1999

Brain Molding – The Unexpected Reality

A reciprocal pattern of brain function causes physical change (molding) of our brains

- We initiate an action or thought
- We repeat the action or thought
- The experience of the action or thought physically molds our brains to habitually repeat the action or thought

What About Bonding And The Sexually Active Adolescent?

- Bonding always occurs with sexual involvement as far as science can tell¹
- The cycle of sexual involvement – break up- sexual involvement – break up is the pattern many young people experience²

1. Young, et al, 2001

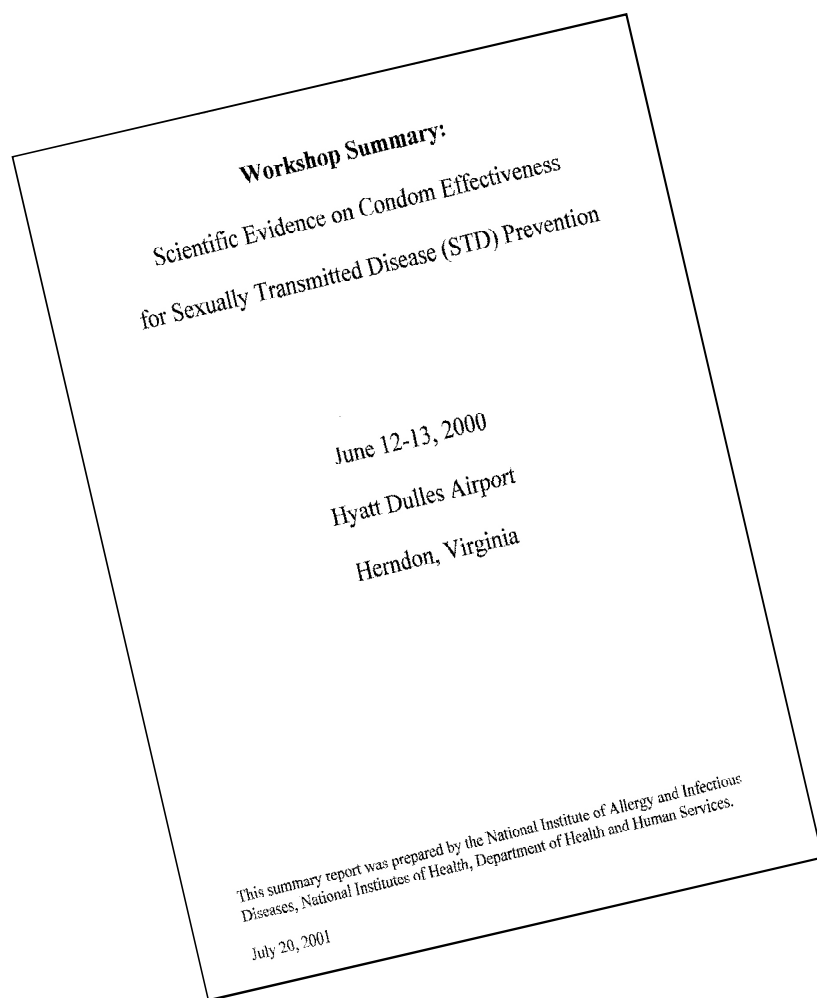
2. Independent Women's Forum Survey, 2001

How can teens successfully handle
the challenge
for a lifetime of healthy living?

The Solution

- Primary Prevention: Risk Avoidance
- Secondary Prevention: Risk Reduction
- Tertiary Prevention: Immunization

Condom Effectiveness in STD Prevention



CONDOM EFFICACY

- preventing HIV transmission – 85%
- risk reduction for gonorrhea in men approximately – 50%
- no evidence for risk reduction for HPV
- insufficient evidence for prevention of all other STDs

Methods of Control

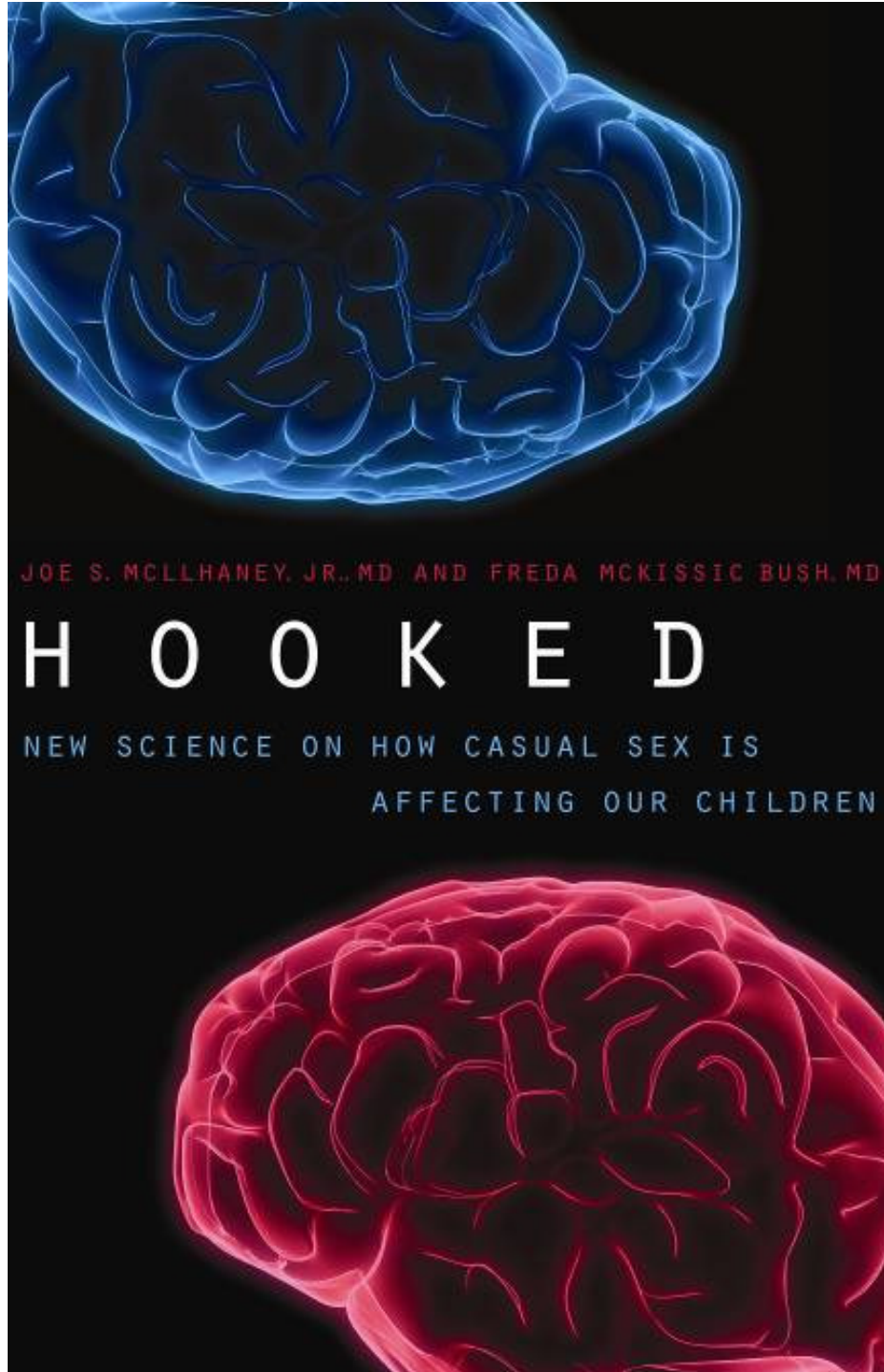
“Abstinence is the only sure way to avoid sexual HIV transmission; otherwise mutual monogamy with partners known to be uninfected and the use of latex condoms are known to reduce the risk of infection.”

Healthy Brain Molding

With adult help, young people can trump the negative messages of peers, media and society.

Hope





JOE S. MCLLHANEY, JR., MD AND FREDA MCKISSIC BUSH, MD

HOOKED

NEW SCIENCE ON HOW CASUAL SEX IS
AFFECTING OUR CHILDREN

Evidence Based Solution

Abstinence Works

- Abstinence-Centered Programs that Reduce Teen Sex: National Abstinence Educational Association 2009
- Efficacy of a Theory-Based Abstinence – Only Intervention Over 24 Months: Jemmott, Jemmott, and Fong; Archives of Pediatrics & Adolescent Medicine, Vol. 164 No. 2, Feb 2010

- Randomized, controlled trial with young adolescents
- High risk population of 662 sixth and seventh graders
- Three distinct sex education programs: abstinence-centered, comprehensive sex education, safer sex education and a general health education promotion

24 mo Follow-up

- Reduced sexual initiation
32.6% abstinence vs 51.8% safer sex vs 41.6 comprehensive
- Reduced number of sexual partners
- Did NOT deter the use of condoms

Conclusion

- Single focused abstinence-centered education is the most effective approach in reducing teen sex
- Effective among high risk teens
- Long term positive impact on teens' sexual behavior
- Focuses on health not morals
- Preferred in many communities
- Must be the choice we offer our teens