The Adolescent Brain, Culpability and Competency

Melissa Piasecki, M.D.
University of Nevada School of Medicine
Objectives

• What does neuroscience tell us about the brains of adolescents?
• How does brain development relate to culpability? Competency?
• What are the components of maturity that can be assessed or measured?
• What are effective interventions with adolescents?
Adolescent Brain

- Brakes
- Accelerators
- Recalls and Repairs (so to speak)
Gradual Development of Brakes = Impulsivity
Protracted Development of Prefrontal Control Regions
Earlier Development of Subcortical Limbic Regions

Source: BJ Casey, Ph.D. 2008
Accelerator surge = Reward Seeking Behaviors
Protracted Development of Prefrontal Control Regions
Earlier Development of Subcortical Limbic Regions

Source: BJ Casey, Ph.D. 2008
The Immaturity Gap

As psychosocial development lags behind intellectual maturity, juveniles make shortsighted decisions, show poor impulse control and are vulnerable to peer pressure.

Source: Less Guilty by Reason of Adolescence, MacArthur Foundation Research Network on Adolescent Development and Juvenile Justice, Temple University, Department of Psychology
Consequences of Brake/ Accelerator Development

70% of adolescent deaths result from which 4 problems?

1. Car crashes
2. Unintentional injuries
3. Homicide
4. Suicide

Sources: National Center for Health Statistics, Morbidity and Mortality Weekly Report 2005
Drugs, Alcohol

• Adolescent brain is a major reconstruction project
• Vulnerable to toxic and shaping effects of substances?
Peers During Adolescence

- Brain is primed for peers to be very rewarding
- More risks with peers
- Absence of peers = dearth of rewards
Oxytocin

- Brain chemical for social/mating connection
- Brain grows more receptors during adolescence
- More sensitive
Oxytocin Engenders Trust

• Oxytocin is naturally released in the brain after a 20 second hug from a partner – sealing the bond between the huggers and triggering the brains trust circuits.

• **WARNING**: “Don’t let a guy hug you unless you plan to trust him.”

Culpability

• Waivers to adult court
• Sentencing
• Death Penalty
History Of Culpability

• Cases that pre-date psychiatry and neuroscience
• Political and scientific movements
Forensic Evaluation of Adolescent Culpability

- Appreciation of wrongfulness
- Ability to conform to law
- Developmental aggression/ impulsivity
- Immaturity
- Out of character action
- Environmental circumstances
- Peer group norms
- Incomplete personality development
- Mental Illness

P. Ash, JAAPL 2012
Appreciation of wrongfulness
Ability to conform to law
Developmental aggression/ impulsivity
Immaturity

- Risk taking
- Vulnerability to peer pressure
- Empathic ability
Out of character action
Environmental circumstances
Peer group norms
Incomplete personality development
Mental Illness
US Supreme Court

• National consensus emerging
• Society views juveniles as “categorically less culpable than the average criminal”
  – Same as mentally retarded people
  – Susceptible to influence
  – Immature and irresponsible behavior
Dissenting Opinions

• Justices O’Connor and Scalia
• While there was no support for executing the mentally retarded, at least 8 states had considered and adopted legislation permitting execution of 16-and 17-year-olds
• Difference in maturity between adults and juveniles is neither universal nor significant enough to justify barring death penalty for juveniles
• Rejected Court’s use of international law to confirm its finding of a national consensus
Competency

- Dusky: A functional test
- Incompetence can be due to mental illness or immaturity.
- New data on developmental immaturity
Elements of Competence

• Understanding
• Reasoning
• Decisional competence

Bonnie, 1992, 1993
# Compare Adolescents and Adults

<table>
<thead>
<tr>
<th></th>
<th>Adults</th>
<th>Adolescents</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Basic Comprehension of Legal Process</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Reasoning Ability</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Decision Making/Judgment</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Differences in Decision Making Capacity

- Future orientation
  Immediate gratification
- Risk perception
- Peer influence
  Please friends
How to Measure Adolescent Judgment?

- MacArthur Judgment Evaluation
- Research Tool: Maturity of Judgment
- Vignettes and structured interview
Healthy Brain Molding

• The brain learns by trial and error, particularly from the age of 18 on
• Mistakes are supposed to be made by adolescents
• The role of parents and caring adults is to provide boundaries within which a young person can make decisions including mistakes, as safely as possible.
Repairs and Recalls

• Increase brakes
  – Increase self monitoring and impulse control
• Cut fuel line or change to alternative fuel
  – Decrease appeal of (the wrong) rewards
Increase Brakes

- Logic
- Argument
- Information
- Education
- Not!
Increase Brakes

• Emotional and social consequences
• Structured expectations
• Monitoring
• ADHD: treat with stimulants and behavioral interventions
What Doesn’t Work

- Explaining why growing a brake is a good idea
- Explaining why failing to use the brake makes you a bad person
- Focusing only on the bad braking
- Extracting a pledge to use brakes

Alan Kazdin, PhD; The Kazdin Method for Parenting the Defiant Child, 2008
Adolescents Need Adult Guidance

• Until the mid-twenties young people do not have the physical brain capacity to make fully mature decisions
• We abandon adolescents to the impossibility of mature decision making if we just give them information and then say “do what you think is best”.

Giedd, et al 1999
Structured Expectations

• School
• Communication ("Checking In")
• Curfew
• Finances
• Screen time
Monitoring

deantidrug.com

• SAFEGUARDING & MONITORING
• Monitoring Skills
• Internet monitoring
• Teens and Free Time
Monitoring

• Research: more intense monitoring = greater reduction in risky behavior

• Who gets monitored more closely—teenage boys or girls?
Role of the Court

• Be a Brake cable
  – Structured expectations
    • School
    • Job
  – Monitoring
    • Alcohol and drug monitoring
    • Online, school, occupational, therapy activities
  – Fast and predictable sanctions
    • 50 years of research: Punishment doesn’t do much to improve behavior
Role of the Court

• **Be a Source of Alternative Fuel/Reward (Dopamine)**
  – Strengths based approach
  – Rewards/ incentives
  – Novelty
  – Peers
Strengths

Research: Activities that protect against risks

Academics

Pro-social activities
Examples of Working With Strengths and Rewards

• Strengths: What are you proud of? What is going well?
• Rewards: Catch them doing something right
• Create opportunities for doing something right
• Research: Reinforce the habit through rewards.
• Praise is a powerful reward.
Create Alternative Rewards

- Alternative rewards
- Tangible
  - Gift cards
  - Fish bowl prize draw
- Intangible
  - Academic success
  - Praise
Examples From Your Court

1. How do you uncover strengths
   -in adolescents?
   -in their families?
2. What are some of the opportunities you create for adolescents to “do good?”
3. What are some of the rewards you use to reinforce the target behavior?
Summary

• Adolescence leads to massive changes in the accelerator (reward) and brake systems of the brain
• Gray areas for culpability and competency
• Increased monitoring and structure reduce risk
• Courts can effectively work with strengths and rewards
Resources

• Adolescent Legal Competence in Court: MacArthur Foundation Research Network
• Grisso: Youth on Trial
• Ash: JAAPL 40:1, 2012
• Giedd, et al 1999