



Not a Harmless Drug: Prevention and Treatment of Marijuana Addiction

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Disclosure

I have no financial relationship with a commercial entity producing health-care related products and/or services.

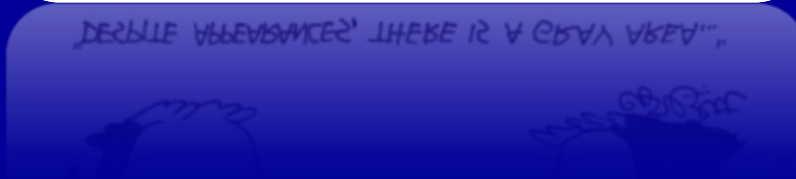
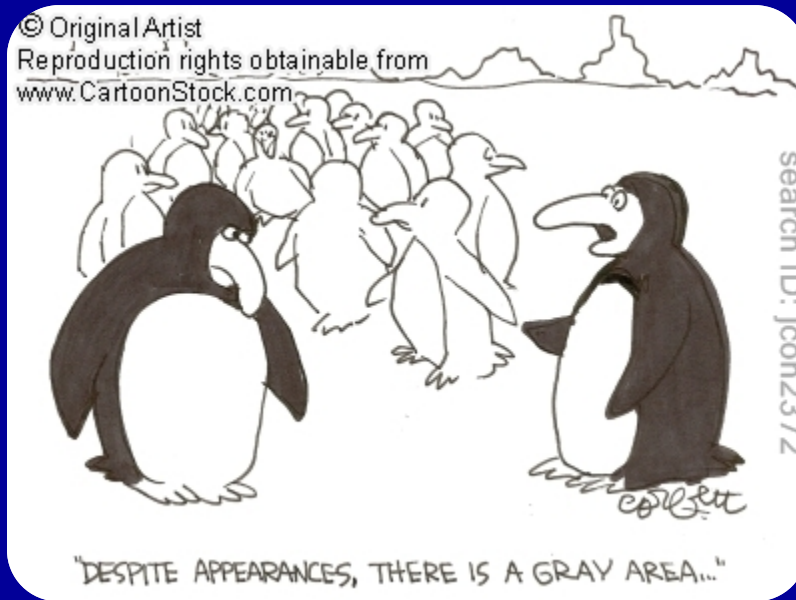
Meda Pharmaceuticals has graciously agreed to provide some of the medications used in our studies.



Three Areas of Focus

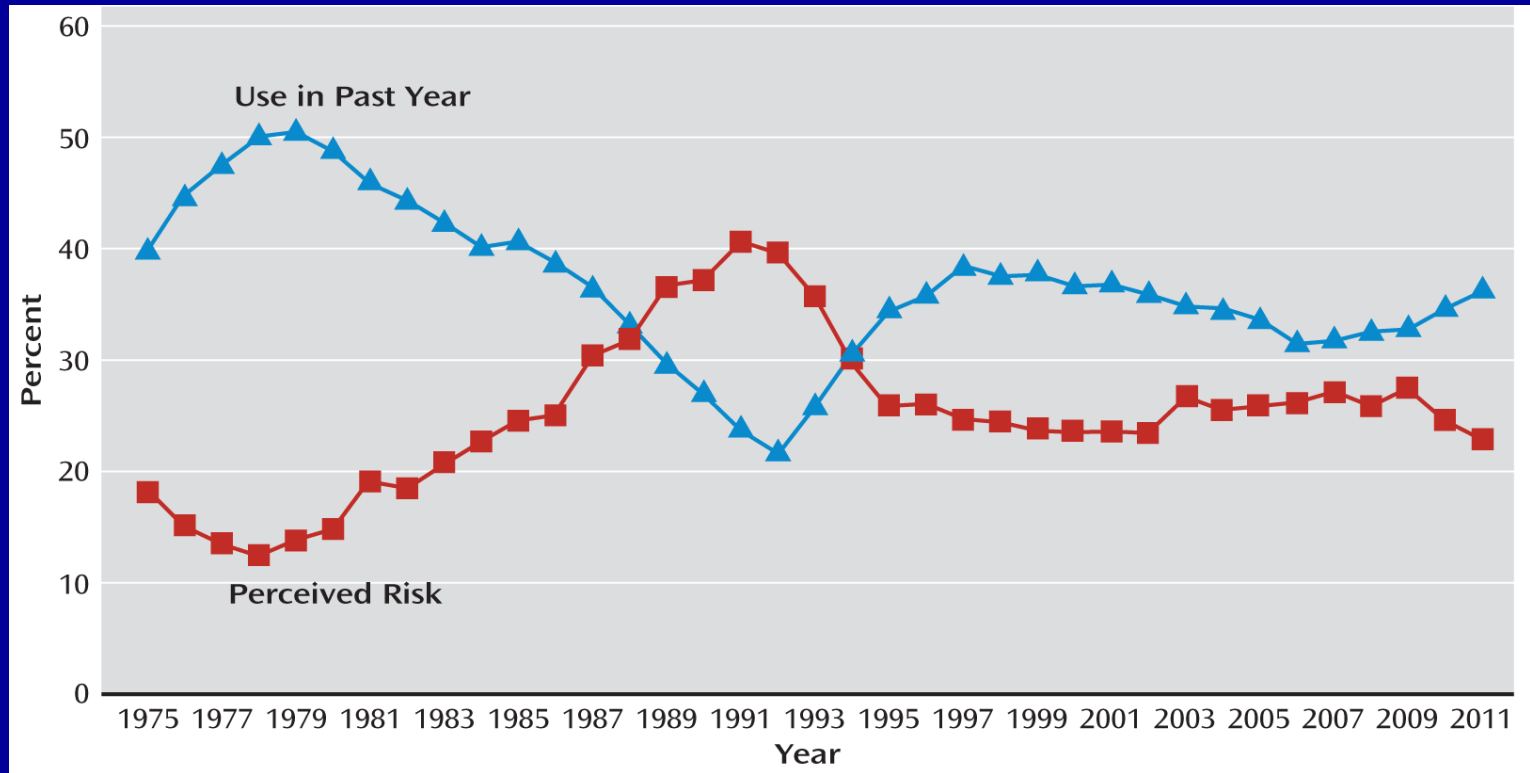
- Clinical work: consult service, private practice.
- Clinical research: 3 clinical trials (2 marijuana, 1 tobacco cigarettes).
- Educational outreach: Science vs. public perception, official community partner to Boston Public Schools.

The Marijuana Issue is Not Black and White- There is Gray.





Large Numbers, Disturbing Trend



Monitoring the Future 2012



Substance Abuse

Publication details, including instructions for authors and subscription information:
<http://www.tandfonline.com/loi/wsub20>

Sex, age, and progression of drug use in adolescents admitted for substance use disorder treatment in the northeastern United States: Comparison with a national survey

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- Adult Chemical Dependency Questionnaire
- If progression to “hard” drugs takes place, it happens very quickly.



Why So Complicated?

- Can't paint with a broad brush.
- Many misguided by their own experiences.
- Math can be tricky.



Marijuana in the Northeast- A Trend Toward Increased Access

- Decriminalization of less than 1 ounce in 2008 (MA) and 2013 (RI).
- Medical Marijuana passed in November 2006 (RI), 2012 (MA).
- Trend toward making marijuana more available; legalization by 2016?

How much is an ounce?





Today's Marijuana is Not Like Marijuana of the Past

- **Extremely potent (15-22% THC) marijuana available.**
- **Medical marijuana laws have created legitimate farms growing potent strains.**
- **Is this new marijuana more addictive?**



Easier, Stronger, Cheaper

- Already readily available, marijuana easier to get.
- Extremely potent marijuana engineered to increase THC/CBD ratio.
- Now around \$400 an ounce, the price will likely go down for marijuana of comparable potency.



Marijuana Myths

- Not harmful
- Not addictive
- No withdrawal






Cannabis / Marijuana

- Many consider this a “soft” drug.
- No overdose potential.
- We need to move the discussion along so that people think marijuana—like alcohol— is dangerous.



IT IS HARMFUL!

- Early onset leads to poor cognitive function (Pope 2003, Gruber 2011)
-  anxiety (Crippa 2009)
-  depression (Degenhardt 2003)
-  risk of psychosis (Kuepper 2011, Large 2011)



Teen Marijuana Use May Permanently Reduce IQ

- Dunedin (NZ) birth cohort- 1037 subjects.
- Multiple interviews, neuropsych at 13, 38.
- Aimed to test association between persistent cannabis use and neuropsychological decline.

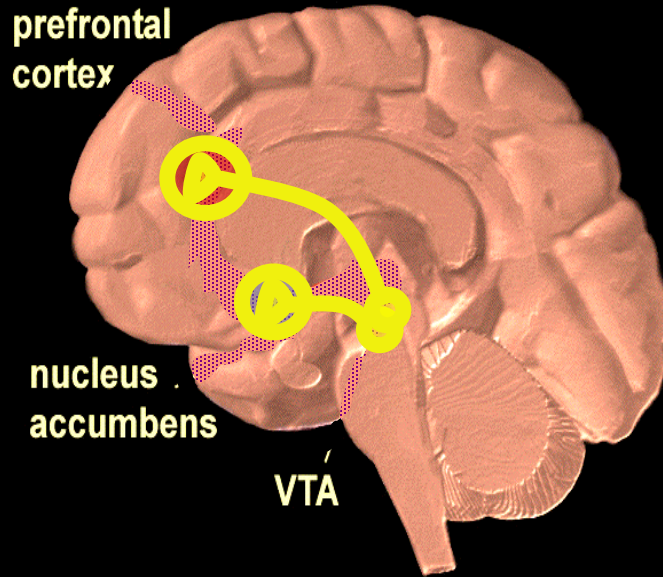
Meier et al. 2012



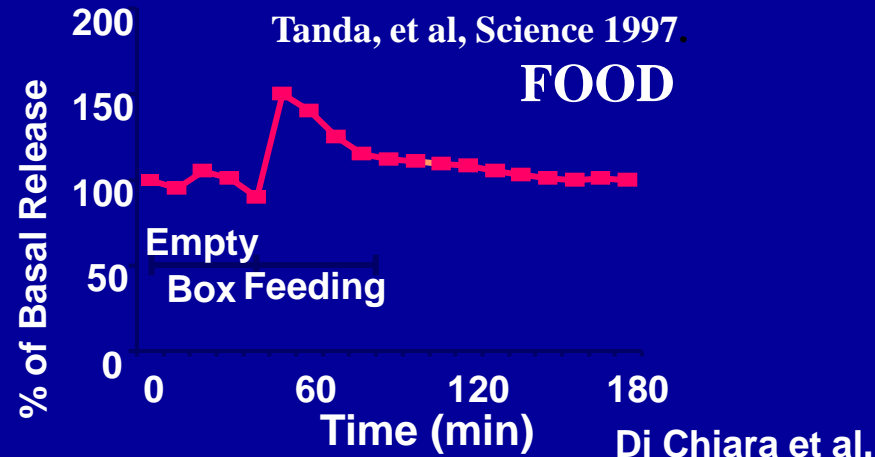
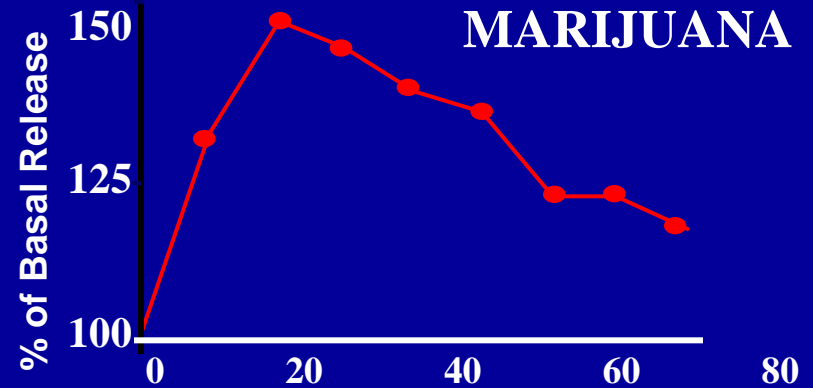
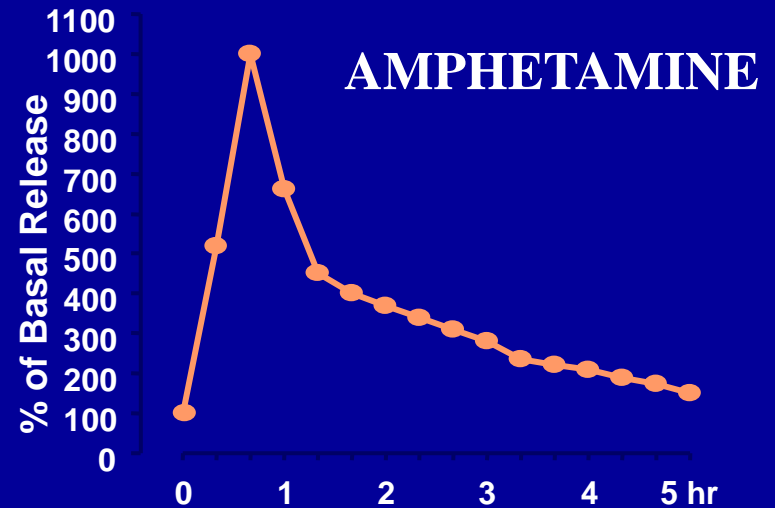
Supports Other Work Detailing Harms of Marijuana Upon the Developing Brain

- Persistent use associated with broad neuropsych decline.
- Regular use before 18 associated with worsening performance.
- Cessation for 1 year did not fully restore function.

IT IS ADDICTIVE!



Drugs of abuse increase DA in the Nucleus Accumbens....triggers the neuroadaptions that result in addiction?

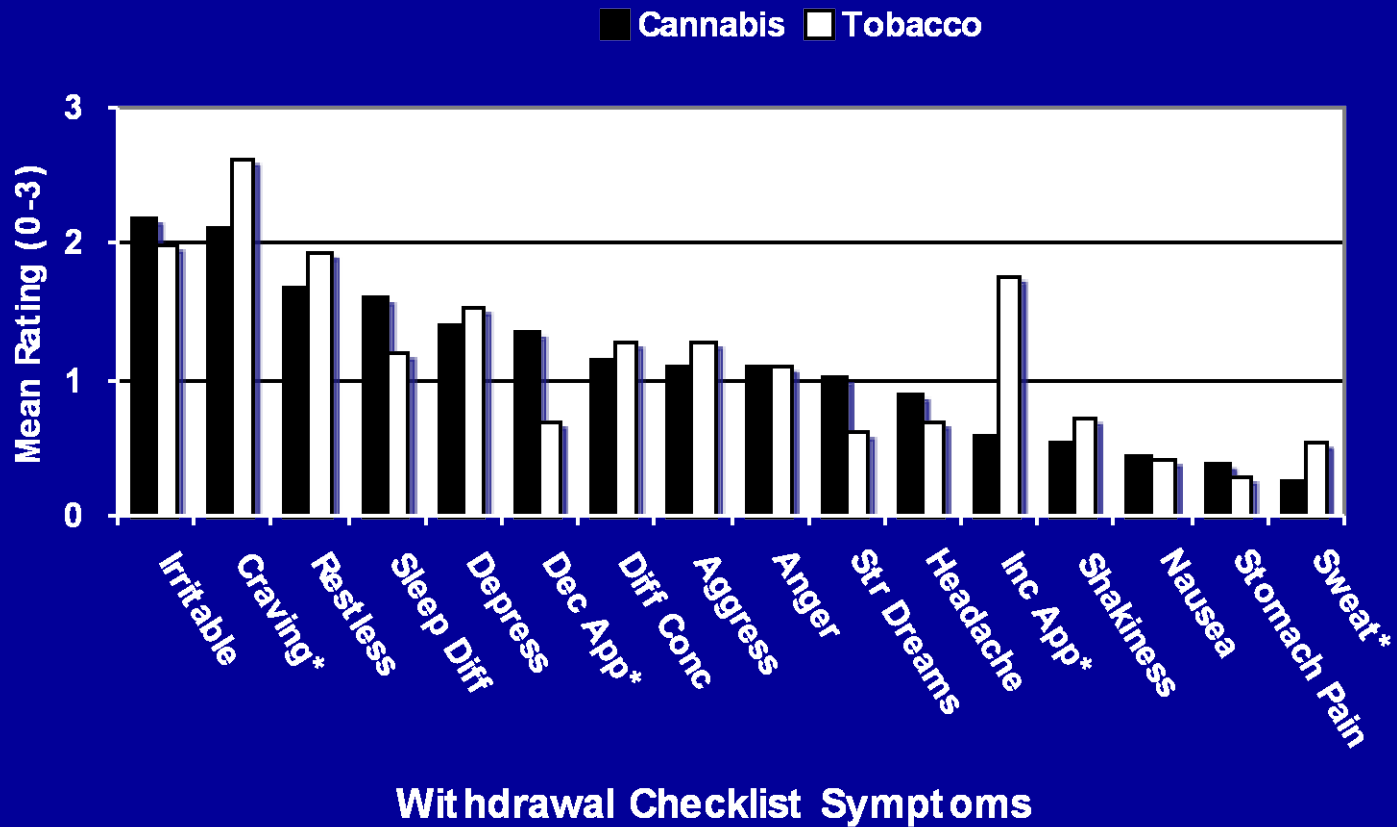




There is Withdrawal!

(Vandrey et al., 2005; Vandrey et al. 2008, Budney et al., 2009)

Symptom Severity





Medical Marijuana in the Northeast

- Reality— the Genie is out of the bottle.
- Well-intentioned regulations with troublesome areas.
- Work from the Northeast, along with that from states like Colorado, might inform modifications.





Studying the Effects of MMJ in MA

- Survey study- change in access and indications.
- THC content and genetic tracking.
- There are enough people guessing, we are aiming to use scientific rigor to see what actually occurs.



Clinical Research



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Cognitive Behavioral Therapy and the Nicotine Transdermal Patch for Dual Nicotine and Cannabis Dependence: A Pilot Study

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- 7 participants completed trial (58.3%).
- Significant reduction in cigarette smoking.
- Non-significant reduction in marijuana smoking, but perhaps a trend.
- This group is treatable!



Clinical Research

- No FDA-approved medications for marijuana addiction.
- Agonist treatments similar to nicotine patch or suboxone.
- Separate studies with nabilone and dronabinol.



What do you do?

- Never worry alone.
- McLean, primary care physician, school nurse.



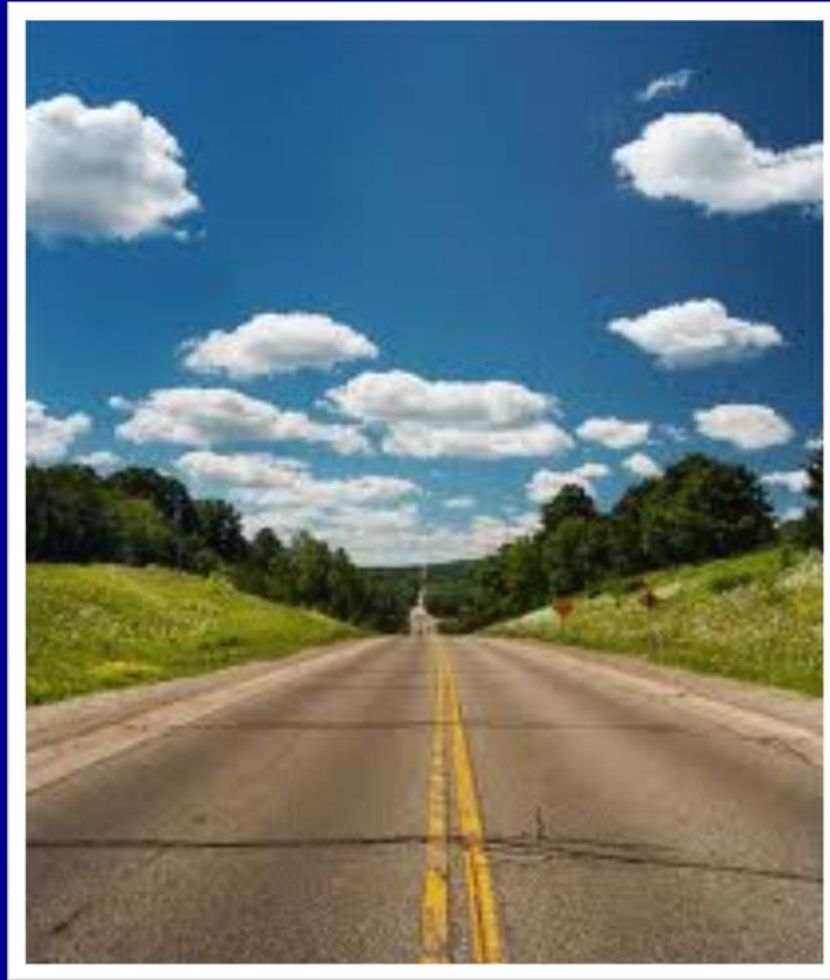
What does treatment look like?

- Medical detox is not necessary.
- 30 days of “rehab” is unlikely.
- Get prospective patient to talk to somebody.
- Readiness/alliance work, followed by a program or outpatient psychotherapy .



Critical Period

- More education needed- can we at least get people to think of marijuana like they do alcohol?
- Trends are ominous.
- NIDA and some foundations have invested in these ideas.
- Thank you for doing the work that you do everyday!





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