

## **Expect Recovery: Applying the Science of Addiction Recovery (SOAR)**

This seminar highlights the combined genetic and environmental factors that produce alcohol and other drug use's impact on the brain, body, mind and behavior. Over 50 years of clinical neuroscience research shows that recovery or resilience is due to our brain's ability to adapt and heal. An essential element for achieving progressive wellness is sustained engagements in social support, also known as the social model of recovery.

Objectives. Upon completion of this session participants will be able to:

- A. Explain: a) why people sometimes don't "just quit and stay quit," and b) the reasons for the message of hope that expects recovery;
  - B. Describe how alcohol and other drugs and the environments in which use occurs changes priorities and behaviors, and why recovery capital and connections to supports are typically needed to initiate and sustain long-term recovery; and
  - C. Identify the many peer and professional resources that are available in your community.
1. Download the handout and PowerPoint slides at [brauchtworks.com](http://brauchtworks.com)
  2. Sign in to receive a certificate at <https://goo.gl/forms/KNCIY10F4N93Q1ZK2> and see #4
  3. Participate in audience polls by opening your web browser to [www.responseware.com](http://www.responseware.com)
    - a. Enter as a "Guest" with Session ID **ExpectRecovery**
  4. **Before the end of this session**, provide feedback on this session - required for a certificate - at <https://goo.gl/forms/OjtFDqi02WVrKNUE2>

Three key takeaways

#1: Like other preventable, treatable and chronic health conditions, addiction and recovery affect the \_\_\_\_\_, mind and behavior.

#2: Like other preventable, treatable and chronic health conditions, \_\_\_\_\_ requires **daily** and **sustained** engagement and connections.

#3: Over \_\_\_\_\_ Americans are in long-term recovery from alcohol and other drug use and we carry the message of \_\_\_\_\_ and Expect Recovery!

Notes, Doodles and **My Top Three Takeaways**:



# THE RECOVERY BILL OF RIGHTS

FACES & VOICES OF RECOVERY



**We will improve the lives of millions of Americans, their families and communities if we treat addiction to alcohol and other drugs as a public health crisis. To overcome this crisis, we must accord dignity to people with addiction and recognize that there is no one path to recovery.** Individuals who are striving to be responsible citizens can recover on their own or with the help of others. Effective aid can be rendered by mutual support groups or health care professionals. Recovery can begin in a doctor's office, treatment center, church, prison, peer support meeting or in one's own home. The journey can be guided by religious faith, spiritual experience or secular teachings. Recovery happens every day across our country and there are effective solutions for people still struggling. Whatever the pathway, the journey will be far easier to travel if people seeking recovery are afforded respect for their basic rights:

- 1. We have the right to be viewed as capable of changing, growing** and becoming positively connected to our community, no matter what we did in the past because of our addiction.
- 2. We have the right—as do our families and friends—to know about the many pathways to recovery, the nature of addiction** and the barriers to long-term recovery, all conveyed in ways that we can understand.
- 3. We have the right, whether seeking recovery in the community, a physician's office, treatment center or while incarcerated, to set our own recovery goals,** working with a personalized recovery plan that we have designed based on accurate and understandable information about our health status, including a comprehensive, holistic assessment.
- 4. We have the right to select services that build on our strengths,** armed with full information about the experience, and credentials of the people providing services and the effectiveness of the services and programs from which we are seeking help.
- 5. We have the right to be served by organizations or health care and social service providers that view recovery positively,** meet the highest public health and safety standards, provide rapid access to services, treat us respectfully, understand that our motivation is related to successfully accessing our strengths and will work with us and our families to find a pathway to recovery.
- 6. We have the right to be considered as more than a statistic,** stereotype, risk score, diagnosis, label or pathology unit—free from the social stigma that characterizes us as weak or morally flawed. If we relapse and begin treatment again, we should be treated with dignity and respect that welcomes our continued efforts to achieve long-term recovery.
- 7. We have the right to a health care and social services system that recognizes the strengths and needs of people with addiction** and coordinates its efforts to provide recovery-based care that honors and respects our cultural beliefs. This support may include introduction to religious, spiritual and secular communities of recovery, and the involvement of our families, kinship networks and indigenous healers as part of our treatment experience.
- 8. We have the right to be represented by informed policymakers** who remove barriers to educational, housing and employment opportunities once we are no longer misusing alcohol or other drugs and are on the road to recovery.
- 9. We have the right to respectful, nondiscriminatory care from doctors** and other health care providers and to receive services on the same basis as people do for any other chronic illness, with the same provisions, copayments, lifetime benefits and catastrophic coverage in insurance, self-funded/self-insured health plans, Medicare and HMO plans. The criteria of "proper" care should be exclusively between our health care providers and ourselves; it should reflect the severity, complexity and duration of our illness and provide a reasonable opportunity for recovery maintenance.
- 10. We have the right to treatment and recovery support in the criminal justice system** and to regain our place and rights in society once we have served our sentences.
- 11. We have the right to speak out publicly about our recovery** to let others know that long-term recovery from addiction is a reality.

**ENDORSED BY:** American Association for the Treatment of Opioid Dependence, Inc. • American Society of Addiction Medicine • Community Anti-Drug Coalitions of America • Ensuring Solutions to Alcohol Problems • Entertainment Industries Council • Johnson Institute • Join Together • Legal Action Center • NAADAC, the Association for Addiction Professionals • National African American Drug Policy Coalition • National Alliance of Advocates for Buprenorphine Treatment • National Alliance of Methadone Advocates • National Association on Alcohol, Drugs and Disability • National Association of Drug Court Professionals • National Association for Children of Alcoholics • National Association of Addiction Treatment Providers • National Council on Alcoholism and Drug Dependence • National Council for Community Behavioral Healthcare • Rebecca Project for Human Rights • State Association of Addiction Services • TASC, Inc. • Therapeutic Communities of America • White Bison

Alcohol & Drug Abuse Certification Board of Georgia  
Georgia Addiction Counselors Association  
Georgia Association of Recovery Residences  
Georgia Council on Substance Abuse

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**FACES &  
VOICES**  
OF RECOVERY

www.facesandvoicesofrecovery.org  
info@facesandvoicesofrecovery.org

Asset-based Community Development Resources Exploration Sheet  
 George S. Braucht, LPC & CPCS; [brauchtworks.com](http://brauchtworks.com)

Date: \_\_\_\_\_

Topic:       Where to go to have “recovery-friendly fun”

Criteria for “recovery-friendly fun:”	Potential locations (exact addresses):
A.	1.
B.	2.
C.	3.
D.	4.
E.	5.
F.	6.
G.	7.

**Criteria Ratings:** **0** = does not meet; **3** = somewhat meets; **5** = fully meets

Locations: 1.	Contact person: _____
<u>Criteria Ratings:</u> A = B = C = D = E = F = G =	Date visited: _____
A = B = C = D = E = F = G =	Date visited: _____
2.	Contact person: _____
<u>Criteria Ratings:</u> A = B = C = D = E = F = G =	Date visited: _____
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# Applying the Science of Addiction Recovery (SOAR): Expect Recovery! 180212MAR

**Applying the Science of  
Addiction Recovery (SOAR):  
Expect Recovery!**

Adapted from  
The Science of  
Addiction  
& Recovery  
FACES & VOICES  
OF RECOVERY  
[facesandvoicesofrecovery.org](http://facesandvoicesofrecovery.org)

**Your name;** credentials  
We 'R Recovery Services  
Email: [youremail@wers.org](mailto:youremail@wers.org)

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Georgia Council on  
Substance Abuse  
[gasubstanceabuse.org](http://gasubstanceabuse.org)

Applying Science to Practice: [brauchtworks.com](http://brauchtworks.com)

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"If we had a keen vision of all that is ordinary  
in human life, it would be like hearing the  
grass grow or the squirrel's heart beat,  
and we should die of that roar which  
is the other side of silence."  
George Eliot (Mary Ann Evans). (1872). *Middlemarch*.

Simon a. Garfunkel. (1966). *Sounds of silence*.  
A Moment of Still Silence

David Crosby. (1988). *Compass*

"I just want to help people."

- ✓ M.S. in Experimental/Physiological Psychology then Community Psychology; taught 1<sup>st</sup> psychology class at **Georgia College** in 1979
- ✓ 14,000+ hours of supervised psychotherapy experience as a Licensed Professional Counselor and Certified Professional Counselor Supervisor; Crisis, AOD & MH recovery; Social Justice; Recovery residences & Peer services
- ✓ Co-founder and Faculty, **Certified Addiction Recovery Empowerment Specialist (CARES) Academy**
- ✓ Lead Faculty, **RecoveryPeople's** Recovery Residence Manager Training and the **Recovery Outcomes Institute's** Recovery Navigation Support using the REC CAP Recovery Capital Scale
- ✓ **Georgia Association of Recovery Residences** Board & Charter Board Member, **National Alliance for Recovery Residences**
- ✓ Certified Trainer in the Partners for Change Outcome Management System with Dr. Barry Duncan's **Better Outcomes Now**

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**George S. Braucht, LPC, CPCS & CARES**  
Applying Science to Practice  
Garnering practice-based evidence of effectiveness using evidence-based practices

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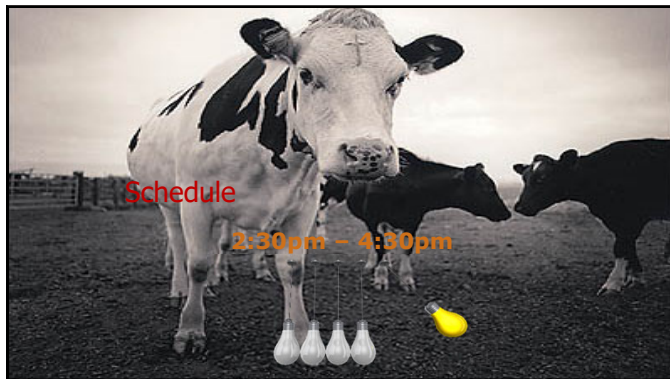
**What's New?**

1. [Click here](#) for the handout for **Applying the Science of Addiction Recovery: Effective Interventions (Level 1); recovery and resilience** handout for the COCA Community Connections training is [here](#).
2. [Here](#) is the Ford/Right Foundation seminar handout: **Happiness as Recovery or Resilience**.
3. [Here](#) is the *Applying the Science of Addiction Recovery: Expect Resilience, Not Relapse* handout for the Georgia Opioid Learning Collaborative.
4. [Ems, Decort, Braucht, Hawk, Meredith & Johnson, \(2017\),](https://doi.org/10.1177/1043986217711100) Home visits in community supervision: A qualitative analysis of themes and tone, *Criminal Justice and Behavior*, DOI: <https://doi.org/10.1177/0003122417711100>
5. [Here](#) is the handout for the Georgia Association of Recovery Residences' **Asset-based Community Development** training.
6. [Click here](#) for Dunn et al's (2016) **Bring Upward: Peerhood Knowledge for 2017** presentation. [Here](#) is the source article.
7. [An Inspiring Resilience, Resilience and Supervision](#) with PYAM NAADAC webinar. [Click here](#) for the handout.
8. [Published in Journal of Community Psychology](#), 2016, 44(1), 1-12. Approved for 11 CEUs by the LPC, CPCS and MATS. [Click here](#) for the handout.





# Applying the Science of Addiction Recovery (SOAR): Expect Recovery! 180212MAR



Register to receive a certificate at  
<https://goo.gl/forms/KNCIY10F4N93OIZK2>  
 or click on the link in the handout

Participate in polls by using a clicker or  
 logging your smart phone, tablet or  
 computer web browser into  
[responseware.com](http://responseware.com)  
 Enter as a "Guest"  
 with Session ID ExpectRecovery

### Three Key Takeaways

Like other preventable, treatable and chronic health conditions:

- ↔ Addiction and recovery affect the **brain**, **mind** and **behavior**
- ↔ **Recovery** requires **daily** and **sustained** engagement and connections

### Three Key Takeaways (cont.)

#### ADDICTION RECOVERY AWARENESS DAY

Like other preventable, treatable and chronic health conditions,  
 ↔ Over **25 million** Americans are in **long-term** recovery from AOD use and we carry the message of **hope** that **Expects Recovery!**

### After this session participants will be able to...

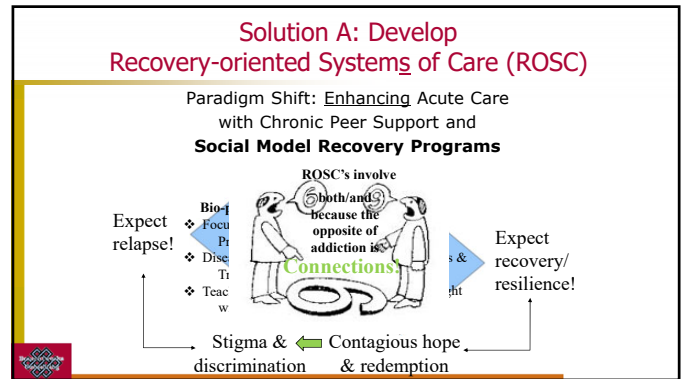
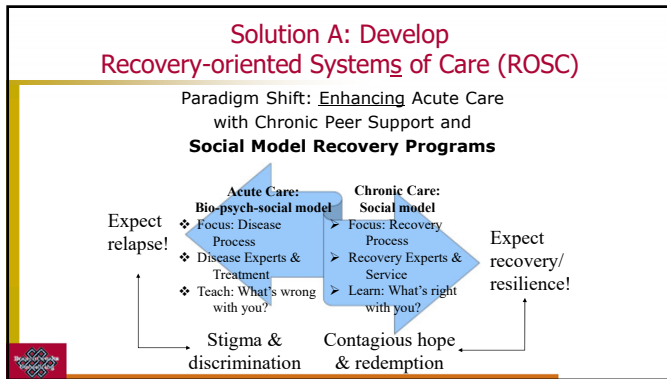
- ✓ Explain a) why people sometimes don't "just quit and stay quit," and b) the reasons for the message of hope that expects recovery;
- ✓ Describe how alcohol and other drug use and the environments in which use occurs changes priorities and behaviors such that recovery capital and connections to supports are typically needed to initiate and sustain long-term recovery; and
- ✓ Identify the many peer and professional resources that are available in your community.

### The Problem

**Addiction is a chronic health condition that involves brain and body (mind) circuitry for reward, motivation & memory**



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- ### A Social Model of Recovery
1. Emphasizes social & interpersonal connections as the foundation of sustainable recovery.
  2. Values experiential knowledge.
  3. Promotes peer-to-peer, mutual aid and other recovery supportive environments in which progressive wellbeing is the common bond.
  4. Requires active work in an individualized recovery program.
  5. Emphasizes peer-to-peer AND practitioner-client relationships that blend to mutually enhance treatment and recovery/wellness objectives and key results.
- Borkman, Kaskutas, Rooms, Bryan, & Barrows. (1998). An historical and developmental analysis of Social Model Programs. *Journal of Substance Abuse Treatment*, 15 (1), 7-17.

### Solution B: Listen for the benefits of sustained connections in recovery stories

**Until lions have historians, tales of hunting will always glorify the hunter.**

**African Proverb**

### Solution C: Enhance Your Recovery Capital (Connections) within Recovery-oriented Systems of Care

**If you want to travel fast, go alone.  
To go far, travel with many.**

**African Proverb**

- ### Recovery Capital Screening Test
1. Place both feet on the floor
  2. Lift your right foot off the floor and make clockwise circles.
  3. With your right hand, draw a "6" in the air.
- If your foot stopped or changed direction, recovery is possible for you!**
- 

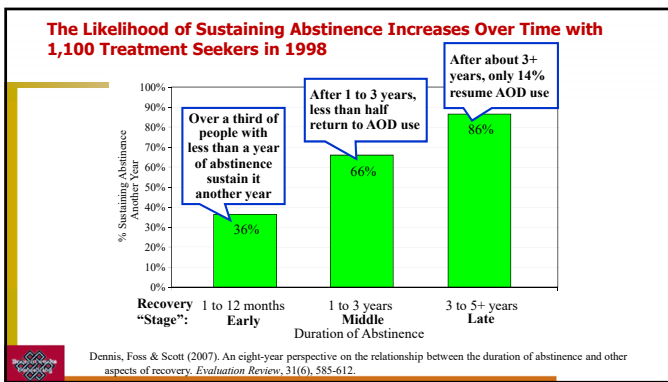


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### Recovery, on average, looks like...

- 1-12 Months:**
  - More clean and sober friends
  - Less illegal activity and incarceration
  - Less homelessness, violence and victimization
  - Less use by others at home, work and by social peers
- 1-3 Years:**
  - Virtual elimination of illegal activity and illegal income
  - Better housing and living situations
  - Increasing employment and income
- 4-7 Years:**
  - More social and spiritual support
  - Better mental health
  - Housing and living situations continue improving
  - Dramatic rise in employment and income: Dramatic drop in # who live below the poverty line

Dennis, M.L., Foss, M.A., & Scott, C.K. (2007). An eight-year perspective on the relationship between the duration of abstinence and other aspects of recovery. *Evaluation Review*, 31(6), 585-612.

### Recovery Prevalence and Pathways of 39,000 US Adults

- Used to have a problem with alcohol or other drugs (AOD) but no longer do: projected to be 9.1% or 22.35 million!
- A large proportion... resolve AOD problems without any external assistance" = 46.1%
- Choosing an assisted pathway likely if: A) diagnosis of substance use disorder, B) drug court involvement or C) no mental health disorder diagnosis
  - Mutual aid (AA, NA, etc.) = 45%
  - Formal treatment = 28%
  - Recovery support services (faith-based, RSC, sober living) = 22%

Kelly, Bergman, Hoepfner, & White. (2017). *Drug and Alcohol Dependence*, 181, 162-169.

### The \$Million Question

Why do some people get into recovery while others do not?



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The Answer **B = P X E**

When were Dr. Bruce Alexander's rat park studies published?

Behavior is always a function of people interacting with environments

Individual Variability:  $B = P \times E$

- Genetics and your history of experiences (P) influences how your brain reacts...
- Along with environmental (E) contributions

Individual Variability: A brain on drugs

Yellow = where cocaine binds in the brain

The Mind says,  
"This must be life enhancing or no, this is not fun, enjoyable, etc.!"

Produces: Craving (approach) or repulsion (avoidance)

Individual Variability (cont.)

People vary in what they find pleasurable because of how their brains react to experiences, like sex, drugs, rock-n-roll...

Why do we use alcohol and other drugs?

One reason is that we like what happens in our brains

Applying the SOAR

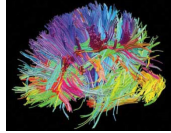
The Brain (and Mind)



# Applying the Science of Addiction Recovery (SOAR): Expect Recovery! 180212MAR

## The Brain

- Approximately 4-6 pounds
- Estimated 100 billion neurons
- 10,000 varieties of neurons
- Neurons communicate via electro-chemical processes
- Miles of blood vessels
- **Estimated 10<sup>10</sup> connections among neurons ↓**
- Monitor sensory input for patterns → change detection plus create maps and make meanings → **The Mind**



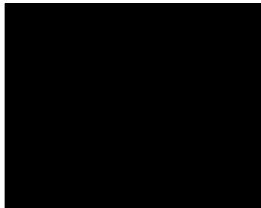
## The Brain (cont.)

- ❖ Responsible for initiating and controlling every:
  - sensation
  - movement/behavior
  - emotion
  - thought
- ❖ That make up the human experience!
- ❖ Some of the most important changes in the brain occur in childhood and adolescence



## Brain Development

At Birth      6 Years Old      14 Years Old



Early in development, synapses are rapidly created. Then a pruning process reduces less-frequently used/needed connections while strengthening more frequently used synapses. Children's brains have twice as many synapses as the brains of adults. Shore, 1997

## Adolescence

Brain development levels off (but doesn't stop) around age 15 affecting adult-like abilities in:

- Attention
  - Selective and divided attention
  - Staying focused on complicated tasks
- Emotion and memory self-regulation



## Adolescence (cont.)

Brain development levels off (but doesn't stop) around age 15 producing adult-like abilities in: (cont.)

- Thinking speed and organization including metacognition or self-reflection
  - Introspection: thinking about my thinking and emotions
  - Interspection: thinking about what others think/feel and how they see me



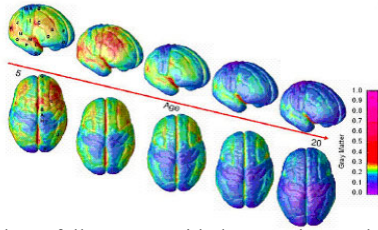
## Adolescence (cont.)

These new cognitive abilities may cause two challenges:

1. Heightened **self-consciousness** = thinking that everyone's attention is focused on me
2. Belief that her or his experiences are unique: **egocentrism**. For example:
  - a. Mother or father cannot understand what it feels like to fall in love, or end a romantic relationship
  - b. If I'm careful I (or my partner) won't get pregnant or catch a STD from having sex once, or twice
  - c. I'm not like those losers who get caught - I can get away with drinking and driving

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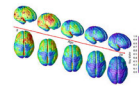
## Adolescence (cont.)



Purple/blue = fully mature with dense and pruned connections.  
Pre-frontal cortex (“executive functions”) matures last!

## Adolescence (cont.)

- Brain development associated with adult abilities is not complete until the mid to late twenties
- Alcohol and other drug use retards this development, sometimes permanently!



## Communication in the Brain

- ❖ Neuron = single nerve cell
- ❖ Neurotransmitters = chemicals for communication among neurons



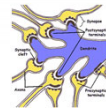
“The Chemistry of Addiction” 10:25

<https://www.youtube.com/watch?v=ukFjH9odsXw&t=51s>

1. “Mo’ synapses, mo’ problems”?
2. What triggers the limbic system?
3. What are the effects of dopamine?

## Communication in the Brain

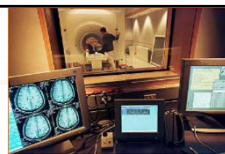
- ❖ Neuron: single cell
- ❖ Neurotransmitters: chemicals that communicate among neuron’s synapses



**Experiences and learning cause synapse connections and strengthening (neuroplasticity)**



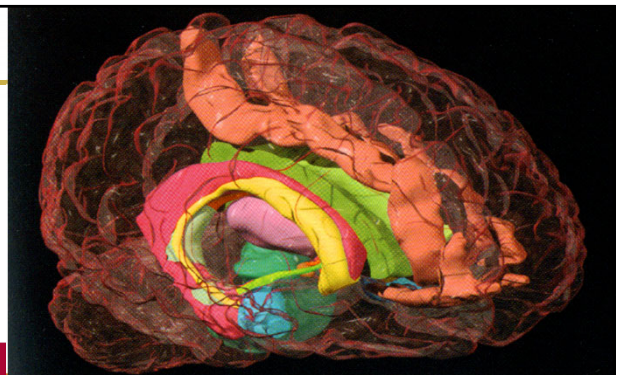
MRI



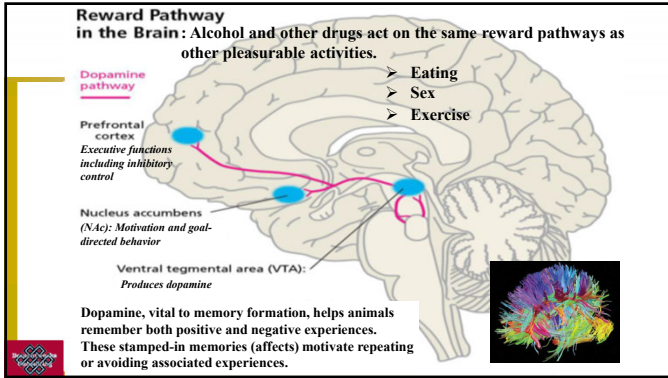
PET



SPECT



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**Where addiction/recovery starts in the brain**

**The limbic system**

- Reacts subconsciously to environmental stimulation & patterns
- Creates powerful emotions & memories, both pleasant [joy; approach] and unpleasant [fear; avoidance], that drive survival [instinctual] behavior

**What comes to mind when you think of your AOD use?**

**LIMBIC SYSTEM STRUCTURES**

- Singulate Gyrus
- Septum
- Olfactory Bulb
- Hypothalamus
- Amygdala
- Hippocampus
- Mammillary Body

**ALL DRUGS OF ABUSE TARGET THE BRAIN'S PLEASURE CENTER**

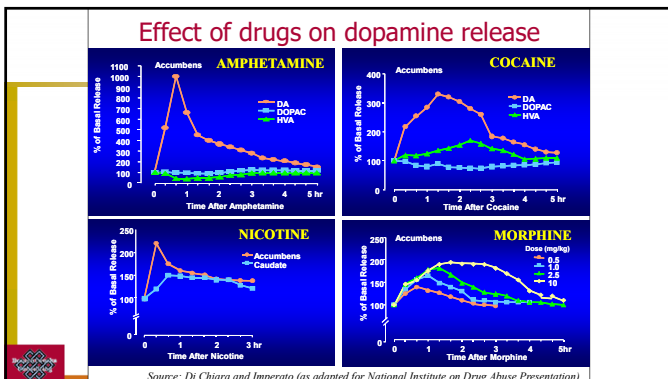
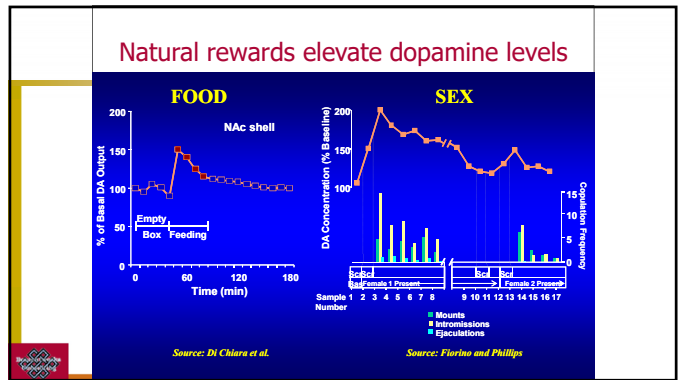
**Brain reward (dopamine) pathways**

**All drugs of abuse increase dopamine**

These brain circuits are important for natural rewards such as food, music, and art.

Typically, dopamine increases in response to natural rewards such as food. When cocaine is taken, dopamine increases are exaggerated, and communication is altered.

**NAcc = Releases oxytocin, dopamine, etc. →**  
**VTA = Prediction errors and learning →**  
**FC = Integrates body-based AND others' emotions into decision-making**



**Description:**  
Opium-derived or synthetic compounds that temporarily relieve pain - may produce dependence

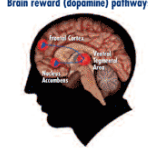
**Routes of administration:**  
Intravenous, smoked, intranasal, oral and intrarectal

**OPIOIDS**

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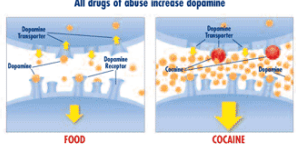
**ALL DRUGS OF ABUSE TARGET THE BRAIN'S PLEASURE CENTER**

Brain reward (dopamine) pathways



These brain circuits are important for natural rewards such as food, music, and art.

All drugs of abuse increase dopamine

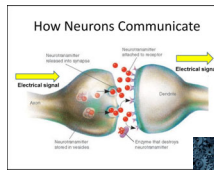


Typically, dopamine increases in response to natural rewards such as food. When cocaine is taken, dopamine increases are exaggerated, and communication is altered.


NAcc = Triggers release of oxytocin dopamine, etc.  
 → VTA = Prediction errors and learning  
 → FC = Integrates body-based AND others' emotions into decision-making

## Two Types of "Synapses" or Connections

How Neurons Communicate



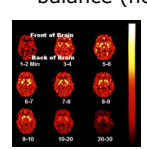
Neurological



Interpersonal

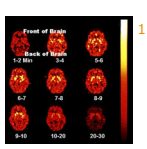
## Brain (Mind) Adaptation to AOD Use

1. Use → changes neurochemical levels
2. Brain → stops or starts neurochemical production to re-establish biological balance (homeostasis)
3. Result → a period of reduced brain functioning before returning to normal → Craving

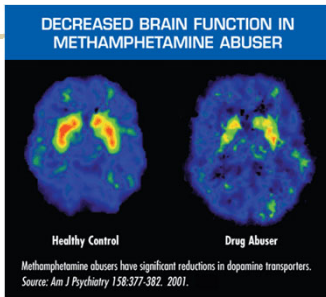


## Brain (mind) Adaptation to Repeated Use

1. Anticipation of Use → changes neurotransmitter/hormone levels = boosts emotions & pre-use preparations
2. Result → more of the drug is needed to get the desired effect = **Tolerance**



## DECREASED BRAIN FUNCTION IN METHAMPHETAMINE ABUSER



Healthy Control      Drug Abuser

Methamphetamine abusers have significant reductions in dopamine transporters.  
 Source: Am J Psychiatry 158:377-382, 2001.




15-year-old male non-drinker      15-year-old male heavy drinker




# Applying the Science of Addiction Recovery (SOAR): Expect Recovery! 180212MAR

Yeah, but everyone knows pot isn't addictive! Right?



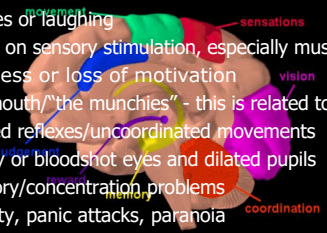
### Activation of the reward pathway by addictive drugs



What are the typical effects of smoking pot?

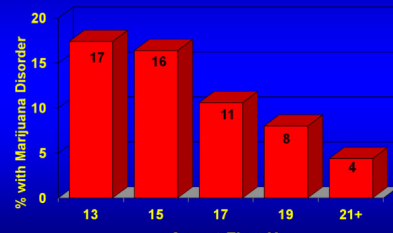
### Common effects of marijuana

- 1) Giggles or laughing
- 2) Focus on sensory stimulation, especially music/lights
- 3) Laziness or loss of motivation
- 4) Dry mouth/"the munchies" - this is related to #2
- 5) Slowed reflexes/uncoordinated movements
- 6) Glassy or bloodshot eyes and dilated pupils
- 7) Memory/concentration problems
- 8) Anxiety, panic attacks, paranoia



Source: NIDA

### Younger Age at First Use Has Higher Risk of Marijuana Dependence



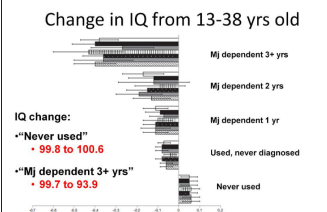
Age at First Use	% with Marijuana Disorder
13	17
15	16
17	11
19	8
21+	4

Source: Substance Abuse and Mental Health Services Administration (2010). Results from the 2009 National Survey on Drug Use and Health: Volume 1. Summary of National Findings. (Office of Applied Studies, NSDUH Series H-36A, HHS Publication No. SMA 10-4568) Rockville, MD.

### Persistent cannabis users show neuropsychological decline from childhood to midlife

Source: Meier et al., Proceedings of the National Academy of Sciences, 2012 (doi:10.1073/pnas.1206851109)

#### Change in IQ from 13-38 yrs old

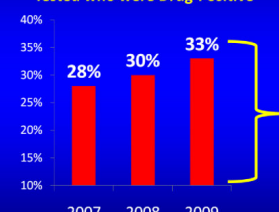


IQ change:

- "Never used" - 99.8 to 100.6
- "Mj dependent 3+ yrs" - 99.7 to 93.9

### Marijuana and Traffic Fatalities

#### Percent of Fatally-Injured Drivers Tested who were Drug-Positive



Year	Percent of Fatally-Injured Drivers Tested who were Drug-Positive
2007	28%
2008	30%
2009	33%

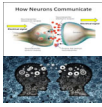
Marijuana was the most common drug found

Adapted by CESAR from National Highway Traffic Safety Administration (NHTSA). "Drug Involvement of Fatally Injured Drivers." Traffic Safety Facts, November 2010. Available online at <http://www.nrd.nhtsa.dot.gov/Pubs/011415.pdf>

# Applying the Science of Addiction Recovery (SOAR): Expect Recovery! 180212MAR

## Understanding people's behavior while using AOD or in early to middle recovery

- Brain **and social** systems changes occur over time and take time to re-set
- Override factual memory storage (hippocampus) and logical reasoning (prefrontal cortex) while re-setting behavioral priorities
- Helps explain behavior that "flies" in the face of logic, e.g., return to AOD use, lying, etc.



## Why return to AOD use? (B=PXE)

- Cravings (B) are due to **internal (P)** & **external (E)** triggers/anchors that set off a physiological chain reaction from the brain or the body: freeze/fight/flight/tend/etc.
- Examples of external (E) triggers:
  - People: "That wrong crowd"
  - Places: The Corner, Celebrations
  - Things: Cash, Payday, Fridays, overhearing a conversation, song/tune, commercial, drug paraphernalia, memory or dream, etc.



## Why return to AOD use? (B=PXE) (cont.)

Examples of internal (P) triggers:

**HALT: states of deprivation or excess**



Hungry or Happy  
Angry or Aggrandized  
Lonely or Love  
Tired or Tried and tempted  
 "the other side of silence"

Therefore, brain adaptation (neuroplasticity) accounts for cravings and returning to alcohol and other drug use that...

sets and re-sets brain systems and our priorities



Explains seemingly weak-willed or otherwise unexplainable behavior

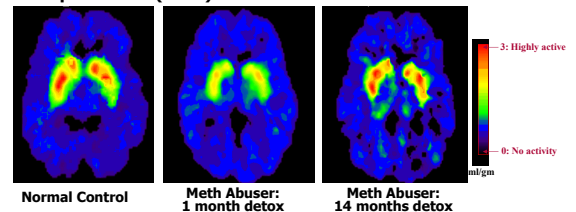
## So, prolonged AOD use.....

Causes both structural/physical and functional changes in brain structures and neurotransmitter pathways and...  
 changes the mind!



## However, recovery is real!

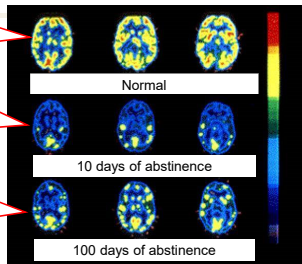
Partial Recovery of Brain Dopamine Transporters in Methamphetamine (Meth) Abuser After Protracted Abstinence



Source: Volkow, N. D., et al. (2001). *Journal of Neuroscience*, 21, 9414-9418.

# Applying the Science of Addiction Recovery (SOAR): Expect Recovery! 180212MAR

**Your Brain on Drugs Today: Prolonged Substance Use Injures The Brain & Healing Takes Time**



Normal levels of brain activity in PET scans show up in yellow to red

Reduced brain activity after regular use can be seen even after 10 days of abstinence


After 100 days of abstinence, we can see brain activity "starting" to recover

Source: Volkow ND, Hazemum R, Wang G-J, Fowler JS, Wolf AP, Dewey SL. Long-term frontal brain metabolic changes in cocaine abusers. *Synapse* 11:184-190, 1992; Volkow ND, Fowler JS, Wang G-J, Hazemum R, Logan J, Schlyer D, Dewey S, Wolf AP. Decreased dopamine D2 receptor availability is associated with reduced frontal metabolism in cocaine abusers. *Synapse* 14:169-177, 1993.

**Brain-Mind-Behavior Changes**

Brain adaptation (neuroplasticity) accounts for:

1. Drug intoxication & withdrawal
2. Tolerance & wanting to use
3. Cravings (relapse) & needing to use
4. Recovery



**FDA-approved Medication-Assisted Treatment**

**Opioid use disorder**

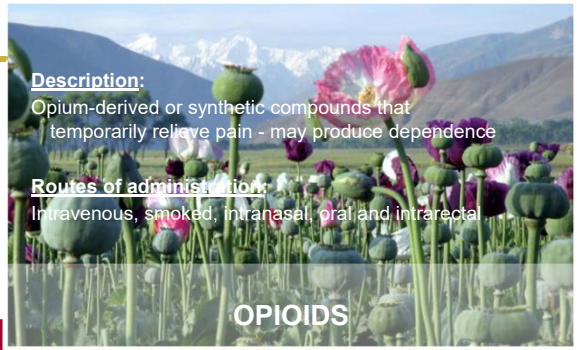
- Methadone
- Buprenorphine (aka: Suboxone = buprenorphine + naloxone)
- Naltrexone (oral, long-acting injectable)
- Naloxone (used for overdose prevention, not maintenance treatment)

**Alcohol use disorder**

- Naltrexone (oral & long-acting injectable)
- Disulfiram
- Acamprostate

**Tobacco use disorder**

- Bupropion
- Varenicline



**Description:**  
Opium-derived or synthetic compounds that temporarily relieve pain - may produce dependence

**Routes of administration:**  
Intravenous, smoked, intranasal, oral and intrarectal

**OPIOIDS**

**Background: MAT for OUDs**

- Reduces drug use
  - Total amount used
  - Number of days/month used
  - Number of weeks with any drug use
- Protects against overdoses
- Prevents injection behaviors
- Reduces criminal behavior

Arthur Robin Williams, MD, MBE (2016)

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**Background: MAT for OUDs**

- Each MAT modality should be provided in addition to recovery work with intensive psychosocial and behavioral therapy
- Patients benefit from MAT for a minimum >1-2 years of sobriety before attempting to taper, with dosing reassessments every 6 months
- There is no evidence for a pre-determined length of treatment

**Longer Retention = Better Outcomes**

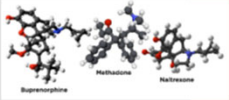
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# Applying the Science of Addiction Recovery (SOAR): Expect Recovery! 180212MAR

## THREE COMMON FORMS OF MAT MEDICATION FOR OPIOID USE DISORDER ARE



**Vivitrol / Naltrexone**  
Not controlled

**Suboxone / Buprenorphine**  
Schedule III: Less potential for abuse than I or II, moderate to low potential for psychological or physical dependence

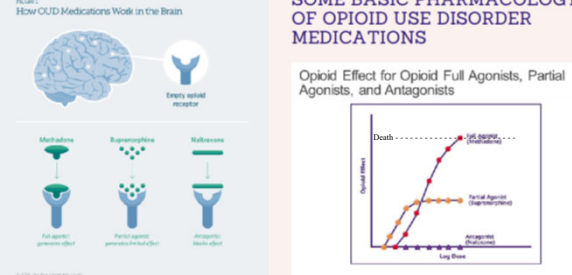
**Methadone**  
Schedule II: High abuse potential, may lead to severe psychological or physical dependence

[dx.gov/drug-schedule](http://dx.gov/drug-schedule)

CARES | Medication Assisted Treatment

## SOME BASIC PHARMACOLOGY OF OPIOID USE DISORDER MEDICATIONS

### Opioid Effect for Opioid Full Agonists, Partial Agonists, and Antagonists



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## A QUESTION OFTEN ASKED...

# WHICH MEDICATION IS "THE BEST?"

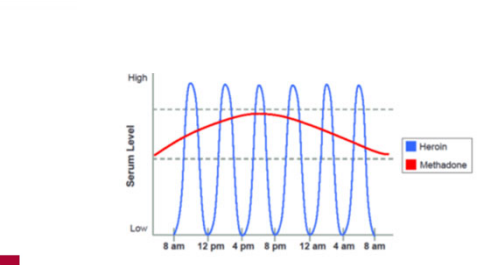
THIS CAN BE A DANGEROUS MINDSET...



IT IS IMPORTANT THAT IN OUR ROLE OF SUPPORT AS CARES, THAT WE DO NOT ATTEMPT TO JUDGE THE MEDICAL ASPECTS OF THE PEER'S TREATMENT. THERE ARE MANY MEDICAL FACTORS THAT WE MAY NOT BE AWARE OF, NOR IS IT OUR JOB TO SPEAR INTO MEDICAL CARE.

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## Advantage of Methadone - Stability



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## What kind of things come into consideration when understanding how different medications affect different people with Opioid Use Disorder?

<p>HOW LONG HAS THIS PERSON BEEN USING OPIOIDS?</p> <p>WHAT WAS THE ROUTE OF ADMINISTRATION?</p>	<p>HOW STRONG WERE THE OPIOIDS / WHAT KIND WERE THEY?</p> <p>WHAT IS THEIR TREATMENT HISTORY?</p>	<p>EARLY USE: AT WHAT AGE DID OPIOID USE BEGIN?</p> <p>WHAT ARE THEIR SOCIAL SUPPORTS?</p>	<p>TO BE CLEAR, NONE OF THIS INFORMATION IS FOR US AS CARES TO DIAGNOSE OR TO SPEAK INTO MEDICAL TREATMENT. THIS IS SIMPLY TO HELP US UNDERSTAND THAT THERE ARE MANY VARIABLES WHEN TREATING OPIOID USE DISORDER. THE SCIENTIFIC AND MEDICAL COMMUNITIES IN RECENT YEARS HAVE MADE HUGE STRIDES IN UNDERSTANDING THE BRAIN SCIENCE OF OPIOID DEPENDENCE. IT IS NOT A "ONES SIZE FITS ALL APPROACH."</p>
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## Which Medication ?

Methadone	Buprenorphine	Naltrexone
<p>Structured programs</p> <p>Gold standard for pregnant and post-partum women</p> <p>Good for people who have chronic pain</p> <p>People getting treatment for HIV/AIDS</p> <p>Eliminates or lessens cravings for opioids</p>	<p>Treated in doctors' offices</p> <p>Effective for pregnant and post-partum women</p> <p>Treatment for HIV/AIDS</p> <p>Motivated to try buprenorphine</p> <p>Able to adhere to medication treatment</p> <p>Eliminates or lessens cravings for opioids</p>	<p>Must stop using for 7-10 days</p> <p>Often mandated by court or employer</p> <p>Also benefit from avoiding alcohol</p> <p>Motivated to eliminate all opioids now</p> <p>Re-entering from prison or jail</p> <p>Does not lessen craving</p>

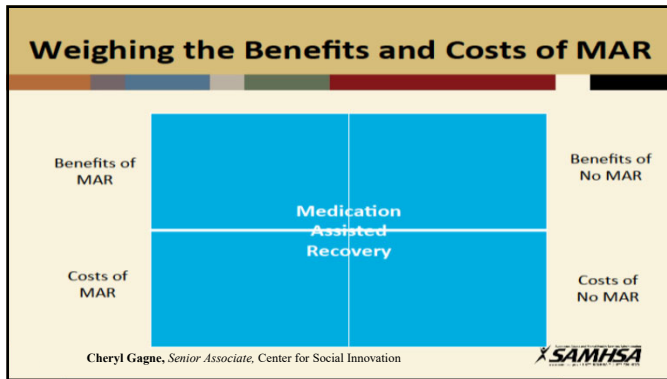
Cheryl Gagne, Senior Associate, Center for Social Innovation

**SAMHSA**





# Applying the Science of Addiction Recovery (SOAR): Expect Recovery! 180212MAR



### Tapering

- Typically patients with continuous sobriety for 1-2+ years have the best outcomes
  - Treatment <6 months has worse outcomes
- There is no evidence to support stopping MAT
  - 95% of methadone patients do not achieve abstinence when attempting to taper off (Nosyk, et al. 2013)
  - Over 90% of buprenorphine patients relapse within 8 weeks of taper completion (Weiss, et al. 2011)
- Successful patients are commonly maintained on
  - Methadone for 24+ months, Buprenorphine for 18+ months

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### Discussion: Perspectives on MAT

**Medication is not a part of addiction treatment.**

A. Strongly Disagree  
B. Disagree  
C. Neutral  
D. Agree  
E. Strongly Agree

0 0 0 0 0  
A. B. C. D. E.

10

**Medication is not a part of addiction treatment.**

Strongly Disagree Disagree Neutral Agree Strongly Agree

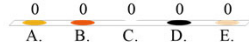
1. Medication is used in the treatment of many health conditions, including addiction.
2. Medical decisions must be made by trained and certified medical providers.
3. Decisions about using medications are based on an objective assessment of the individual's needs.



# Applying the Science of Addiction Recovery (SOAR): Expect Recovery! 180212MAR

**Medications are drugs, and you cannot be "clean" if you are taking anything.**

- A. Strongly Disagree
- B. Disagree
- C. Neutral
- D. Agree
- E. Strongly Agree



10

**Medications are drugs, and you cannot be "clean" if you are taking anything.**

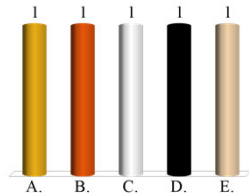
Strongly Disagree Disagree Neutral Agree Strongly Agree

1. Millions of Americans use medications (e.g., Zyban, nicotine patches) to quit smoking
2. Physical dependence is not the same as addiction.
3. The goal of SUD treatment is to assist in stopping the compulsive use of AOD and live a healthy, functional life.
4. Pharmacotherapies are effective.

10

**Alcoholics Anonymous (AA) & Narcotics Anonymous (NA) do not support the use of medications.**

- A. Strongly Disagree
- B. Disagree
- C. Neutral
- D. Agree
- E. Strongly Agree



10

**Alcoholics Anonymous (AA) & Narcotics Anonymous (NA) do not support the use of medications.**

Strongly Disagree Disagree Neutral Agree Strongly Agree

1. AA/NA literature and founding members did not speak or write against using medications. In fact, AA/NA endorses participants' use of medicines as prescribed for the treatment of medical conditions.
2. Some AA/NA meetings hold negative opinions about MAT. It is therefore important to learn how and where to participate in meetings if one is taking medications.

10

**How does your use of medication influence interactions with the peers you serve?**



**Comparing Substance Use and Other Chronic Medical Illnesses' Treatments**

Hypertension  
Diabetes  
Asthma



McLelland, A. T. (2003). What's wrong with addiction treatment?

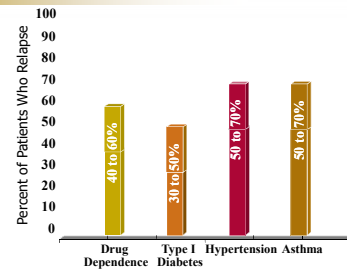
# Applying the Science of Addiction Recovery (SOAR): Expect Recovery! 180212MAR

## Why Compare?

- ☑ Everyone agrees they are illnesses
- ☑ Influenced by genetics + experiences (P) and environment (E)
- ☑ Chronic conditions
- ☑ Cures are rare although effective treatments are available



## Relapse Rates Are Similar for Addiction and Other Chronic Health Conditions

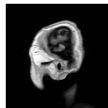


McLellan, A.T., et al. (2000). *Journal of the American Medical Association*, 284 (13).

## Expect Recovery!

Neuroscience research shows that:

- The brain has a remarkable ability to change, adapt and heal = recovery
- Two keys: 1) length of time and 2) one's experiences after alcohol and other drugs are out of the body



## The recovery process takes time

For the brain to adapt and:

- ⌚ Heal = adjust to the absence of the drug
- ⌚ Replace responses to triggers
- ⌚ Learn new ways of experiencing pleasure



## Rewire the brain/mind by:

- Sustained and active engagement with recovery communities
- Focusing on strengths, using talents and skills & celebrating progressive wellness



- \* Biological/physical
- \* Emotional/spiritual
- \* Environmental

## Recovery capital (PXE)




- ⌘ Personal and environmental/community resources for initiating and sustaining recovery
- ⌘ Individual and cultural variability
- ⌘ One's existing recovery capital, current situation and problem severity inform the intensity and duration of recovery supports needed at any point in the recovery process

# Applying the Science of Addiction Recovery (SOAR): Expect Recovery! 180212MAR

Solution C: Develop Recovery Capital with Recovery-oriented Systems of Care

**If you want to travel fast, go alone.  
To go far, travel with many.**



**African Proverb**



**RECOVERY BILL OF RIGHTS**

Alcohol and Drug Abuse Certification Board of Georgia  
Georgia Addiction Counselors Association  
Georgia Association of Recovery Residences  
Georgia Council on Substance Abuse

**Recovery Capital & Many Pathways**


- 📌 Mutual support groups
- 📌 Professional treatment
- 📌 Faith-based groups
- 📌 Medication-assisted treatment
- 📌 "Natural" or on your own
- 📌 And more indigenous routes



**A menu of options**

**Recovery Capital: What's in your community?**

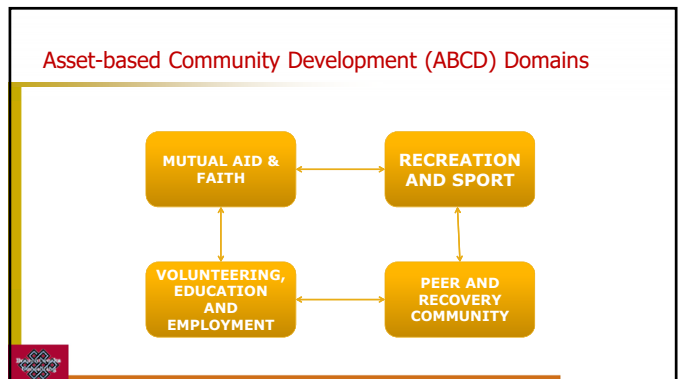
People in recovery, family members, friends, peers and allies... someone who'll stand up for you when you're not in the room



- 📌 State: 1) Georgia Mental Health Consumer Network (1991) [gamhcn.org](http://gamhcn.org), **peer respite centers** and 2) Georgia Council on Substance Abuse (2000) [gasubstanceabuse.org](http://gasubstanceabuse.org), **CARES Warm Line: 1-844-326-5400 - 9:00am – 11:00pm**
- 📌 National: Faces & Voices of Recovery (2001) [facesandvoicesofrecovery.org](http://facesandvoicesofrecovery.org)
- 📌 Local recovery community organizations: list website, email, phone number, and contact person\*
  - 📌 \*make warm handoffs, not "referrals"

**MAR Resources**

1. **Legal Action Center:** [lac.org/resources/substance-use-resources/medication-assisted-treatment-resources](http://lac.org/resources/substance-use-resources/medication-assisted-treatment-resources)
  - MAT Advocacy Toolkit (2016)
  - *Confronting an epidemic: The case for eliminating barriers to medication-assisted treatment of heroin and opioid addiction.* (2015).
  - *Know your rights: Rights for people on MAT* (2009)
2. **Medication-Assisted Recovery Services™:** [marsproject.org](http://marsproject.org)  
"our mission to provide peer support services and training to the medication-assisted recovery community. We design, implement and evaluate selected peer delivered recovery support services to complement existing treatment program."
3. **National Alliance for Medication Assisted Recovery:** [methadone.org](http://methadone.org)  
"composed of medication assisted treatment patients and health care professionals that are supporters of quality opiate agonist treatment. The primary objective of NAMA Recovery is to advocate for the patient in treatment by destigmatizing and empowering medication assisted treatment patients."





# Applying the Science of Addiction Recovery (SOAR): Expect Recovery! 180212MAR


### Identifying Community or Neighborhood Assets Worksheet

	Recreation and Sports	Volunteering, Education, and Employment	Mutual Aid and Faith	Peer and Recovery Community	Others: Positives about your neighborhood that may not fit into the other domains
Who do you know who can help?					
What can you find out about from friends? From friends of friends? What can you get online, or from the library?					

### ABCD mapping of community assets

*The Identifying Community or Neighborhood Assets Worksheet*

1. Identify resources in your area that fit into each domain
2. Which resource(s) may work for each client/peer/resident (CPR) = culturally congruent?
3. How you would link CPRs to them?
4. Ask CPRs to explore and report back: See the *ABCD Resources Exploration Sheet*



### Asset-based Community Development Resources Exploration Sheet

George S. Braucht, LPC & CPCC [brauchtworks.com](http://brauchtworks.com)

Date: \_\_\_\_\_

Topic: "Where to go to have 'recovery-friendly fun'"

Criteria for "recovery-friendly fun": Potential locations (insert addresses):

A.	1.
B.	2.
C.	3.
D.	4.
E.	5.
F.	6.
G.	7.

Criteria Ratings: 4 = does not meet, 3 = somewhat meets, 2 = fully meets

Locations: 1. Contact person: \_\_\_\_\_

Criteria Ratings: A = B = C = D = E = F = G = Date visited: \_\_\_\_\_

A = B = C = D = E = F = G = Date visited: \_\_\_\_\_

2. Contact person: \_\_\_\_\_

Criteria Ratings: A = B = C = D = E = F = G = Date visited: \_\_\_\_\_

A = B = C = D = E = F = G = Date visited: \_\_\_\_\_

3. Contact person: \_\_\_\_\_

Criteria Ratings: A = B = C = D = E = F = G = Date visited: \_\_\_\_\_

A = B = C = D = E = F = G = Date visited: \_\_\_\_\_

4. Contact person: \_\_\_\_\_

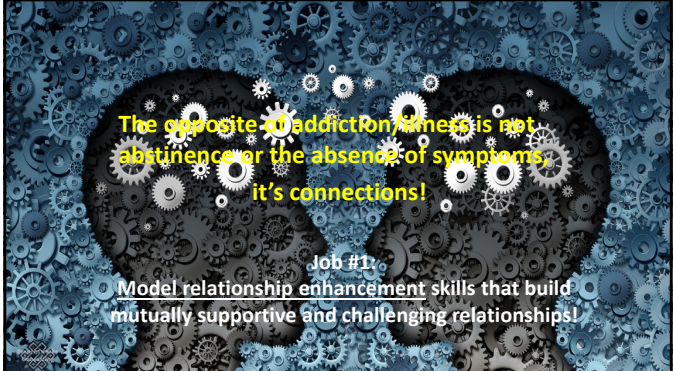
Criteria Ratings: A = B = C = D = E = F = G = Date visited: \_\_\_\_\_

A = B = C = D = E = F = G = Date visited: \_\_\_\_\_

5. Contact person: \_\_\_\_\_

Criteria Ratings: A = B = C = D = E = F = G = Date visited: \_\_\_\_\_

A = B = C = D = E = F = G = Date visited: \_\_\_\_\_




The opposite of addiction/illness is not abstinence or the absence of symptoms, it's connections!

Job #1: Model relationship enhancement skills that build mutually supportive and challenging relationships!



### Three Key Takeaways

1. **Addiction**, very much like other chronic health conditions, affects the **brain, mind** and **behavior**
2. **Recovery**, very much like other chronic health conditions, **requires daily management**




# Applying the Science of Addiction Recovery (SOAR): Expect Recovery! 180212MAR

The Main Takeaway: **Expect recovery!**

**HOPE** is everywhere because over 25 million Americans are in long-term recovery!



Please write **your** most significant takeaways from today on Page 1

Doing What Works for Recovery/Resilience!

**Start**  
by doing what's necessary,  
then do what's possible,  
and suddenly you are  
doing the impossible!

— St. Francis of Assisi

**Please help improve this training by completing a participant feedback form!**



<https://goo.gl/forms/Emyw6MzRRwEiwVPe2>

**Applying the Science of  
Addiction Recovery (SOAR):  
Expect Recovery!**

**HQ T "[ Q W T " C V V G P V K Q P "**

**Riley Kirkpatrick, CARES**  
Email: [rileykirkpatrick14@gmail.com](mailto:rileykirkpatrick14@gmail.com)

**Kelly Moselle; CADCI, CCS, ECADC & MATS**  
Email: [kellymoselle@yahoo.com](mailto:kellymoselle@yahoo.com)

**George S. Braucht; LPC, CPCS & CARES**  
Brauchtworks Consulting & CARES Academy Co-founder  
Email: [george@brauchtworks.com](mailto:george@brauchtworks.com)



[facesandvoicesofrecovery.org](http://facesandvoicesofrecovery.org)

Applying Science to Practice: [brauchtworks.com](http://brauchtworks.com)

