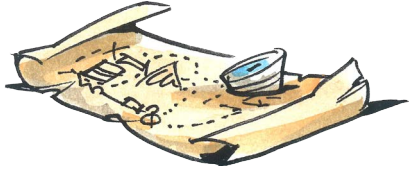


KEY TO THE JOURNEY TO ADDICTION



Genetic Predisposition

Happy couples vacationing on the **USS Procreation** visit this port city and plant the seeds of the next generation. They pass on polymorphic dopamine receptors, and the proportion and distribution of **D1 and D2 receptors**. They also determine the epigenetic enzymes which control gene expression in their offspring.



Pre-Natal

Infants' developing brains enjoy ongoing exposure to a variety of substances due to their mothers' continued use of tobacco, alcohol, marijuana, and other drugs. Studies have indicated that this pre-natal exposure can lead to:

- Increased negativity
- ADHD
- Conduct disorders
- Lower IQs
- Decreased auditory function
- Decreased visual perception
- Increased inattention
- Lower verbal reasoning scores
- Short term memory deficits
- Increased impulsivity
- Decreased executive function

Most of these gifts, which determine deeply-held personality traits, will persist indefinitely and continue to affect nearly every aspect of life.



Peri-Natal

Early life stressors such as fetal distress, hypoxia, and premature birth cause early activation of the HPA (hypothalamic-pituitary-adrenal) axis. This “cranks up the volume” and “primes the pump” to be ready to respond aggressively to every potential stressor in life yet to come.

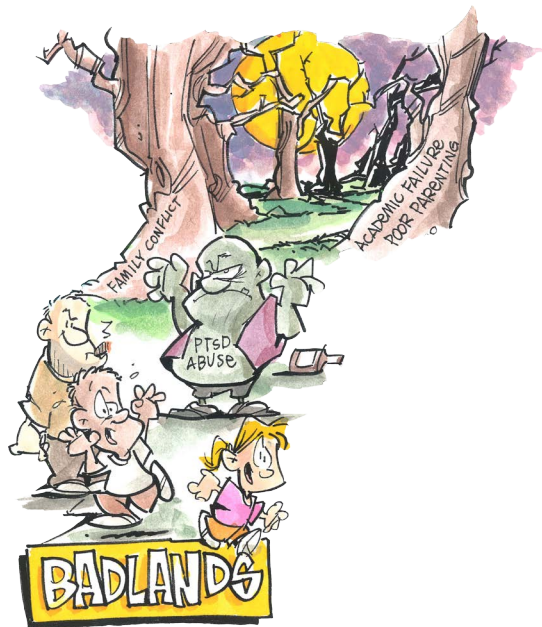
KEY TO THE JOURNEY TO ADDICTION *(continued)*



Childhood

This is when environment, heredity, and personality combine to determine a long-lasting temperament that may be a help or a hindrance in facing all the challenges to come (see the persistent gifts of **The Natals**). This time of life can be characterized by:

- Untreated ADHD
- The onset of anxiety, mood, and conduct disorders.
- Unrecognized learning disorders
- Failure to develop good social skills
- Development of low competence, low confidence, and low self-esteem.
- Early exposure to alcohol and other drugs (the most significant predictor of **severe** addictive disorders later in life).



The Badlands

Combined with the baggage of so many prior problems, exposure to conflict and instability lights the fire-in-the-hole for future addictive disorders:

- **Academic failure**
- Low commitment to school
- Family modeling of cultural norms that promote substance use and abuse
- Positive attitudes regarding use
- Harsh disciplinary practices
- **Poor parental monitoring**
- Low levels of family bonding
- **High family conflict**
- Disengagement from school and community
- Feeling unsafe
- **Abuse and PTSD**—the worst of all

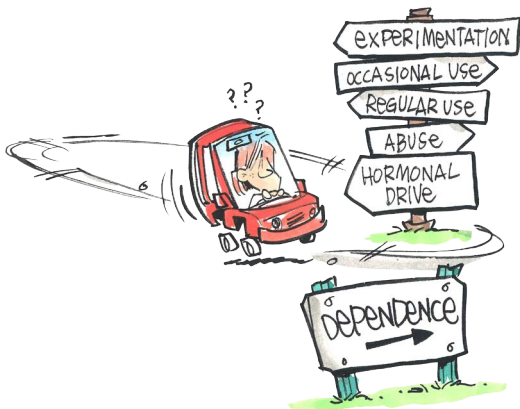
KEY TO THE JOURNEY TO ADDICTION *(continued)*



Adolescence Mall

Separation from parents gives freedom of choice for the first time, while the evolutionary imperatives of development drive behavior towards choices that are potentially irrational and dangerous. What was once a predisposition becomes a perfect storm. Typical mall activities include:

- Experiences with same age peers who can model substance use
- Positive attitudes towards and normalization of substance use
- Development of independence, autonomy, self-image and identity
- Seeking of fun and adventure
- A sense of invulnerability
- A low level of perceived risks
- Rebellion against authority figures
- Lack of cognitive control
- High impulsivity
- High propensity for risk taking
- Suboptimal choices
- Poor self-regulation
- Low assertiveness
- Poor behavior control



The Rotary

The development of addiction involves a progression of substance use from **Experimentation**, to **Occasional Use**, to **Regular Use**, to **Abuse**. Many people have the opportunity to seek help for some of their problems at this time. When they see professional people with these concerns they are often given diagnoses like “Depression” and “Anxiety.” With these diagnoses they are able to visit the pharmacy and get a variety of helpful drugs like benzodiazepines, anti-depressants, mood stabilizers, and multiple others. Often people at this stage of life are able to take a trip down hormonal drive and vacation on the **USS Procreation**. There are also opportunities here to find their way to **Detox and Abstinence** and perhaps find the road to **Long Term Recovery**, but all too often the easier road is the one to **Dependence**.

KEY TO THE JOURNEY TO ADDICTION *(continued)*

Dependence (The Point of No Return) and The Canyon of Chronic Dysphoria

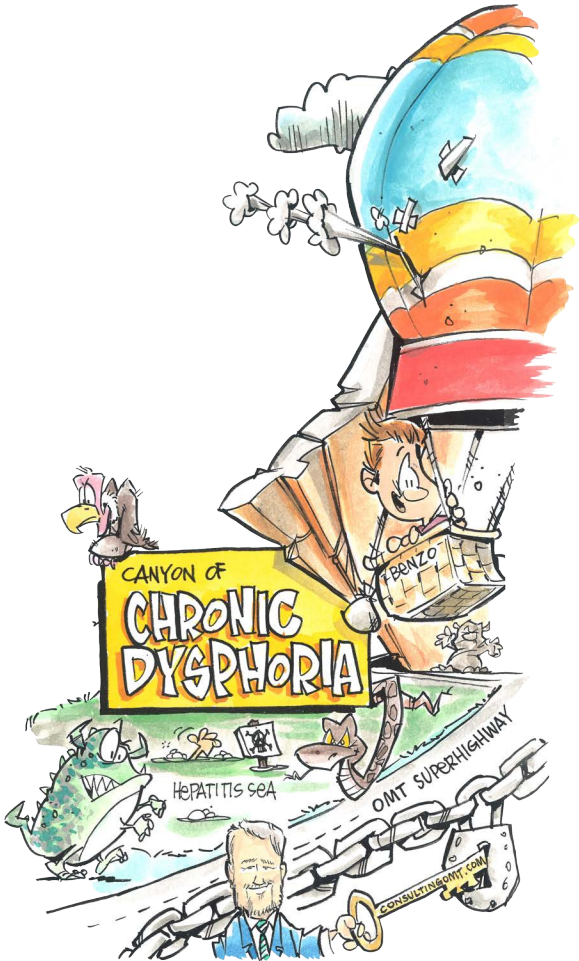
The eventual endpoint of **Dependence** with the development of chronic withdrawal symptoms. These include:

- Fatigue/Lack of energy
- Irritability
- Anxiety
- Agitation/Restlessness
- Insomnia
- Runny nose/Watery eyes
- Hot and cold sweats
- Goose bumps
- Yawning
- Muscle aches and pains
- Restless legs
- Abdominal cramping
- Nausea, vomiting, diarrhea

There is no joy here, only pain and suffering. The canyon is filled with morbidity and mortality around the **Hepatitis Sea**. The only goal of life here is to get out of the canyon. Without help continued illicit drug use is the only option, although of course it is ultimately unsuccessful. Some try an introspective approach but looking back they see only **Depression** and looking forward causes **Anxiety**. These feelings only increase their dysphoria and add to the weight of the burdens that brought them here in the first place. Others take to the **Benzo Balloons** which can temporarily reduce dysphoria and give some relief in the short term, but are also ultimately ineffective. The only effective way out is via the **OMT Super-Highway**. Entrance to the highway is encouraged by Motivational Enhancement Therapy (MET). Cognitive Behavioral Therapy (CBT) helps keep people on track. Once on the **OMT Super-Highway** only trolls trying to limit dosage and length of therapy block the way.

The Chronic Pain Train





The direct route into the **Canyon of Chronic Dysphoria** powered by prolonged exposure to high dose opioids with the development of chronic brain physiologic changes. No other influences needed.



THE ACCUMULATED BURDEN OF THE JOURNEY TO ADDICTION

Physical Dependence

Anxiety		Depression	
Lack of Cognitive Control	High Impulsivity	Poor Executive Function	High Propensity for Risk Taking
Positive Attitudes Toward Substance Use	Low Assertiveness	Poor Self Regulation	Suboptimal Choices
Family Modeling & Normalization of Substance Use	Academic Failure	Harsh Disciplinary Practices	Poor Parental Monitoring
High Family Conflict & Poor Family Bonding	Disengagement from School & Community	Feeling Unsafe	PTSD/Abuse
Untreated ADHD	Unrecognized Learning Disorders	Anxiety, Mood & Conduct Disorders	Low Competence
Poor Social Skills	Early Exposure to Alcohol or Other Drugs	Low Confidence	Low Self Esteem
Early Activation of HPA Axis	Decreased Auditory Function & Visual Perception	Lower Verbal Reasoning	Short Term Memory Deficits
Lower IQ	Increased Negativity	Epigenetic Enzymes	Structure, Proportion & Distribution of D1 & D2 Receptors

-  The Canyon
-  The Badlands
-  Pre-Natal Exposure
-  The Rotary
-  Childhood
-  Genetic Predisposition
-  Adolescence
-  Peri-Natal Exposure