

# **DELIRIUM TREMENS**

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Alcohol and Narcotic  
Withdrawals

Delirium Tremens (commonly referred to as “The Horrors”, “Jazz Hands”, or “The Shakes”) is a psychological and physiological reaction to the sudden disruption of habitual/prolonged daily alcohol or narcotic consumption.

Delirium Tremens (aka. “DT’s”) is also referred to as “Alcoholic Psychosis”.

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# BACKGROUND

Delirium Tremens is the most severe form of alcohol withdrawal, which may result in hallucinations, seizures, and cardiovascular collapse.

According to <http://emedicine.medscape.com>, the syndrome was first described by Thomas Sutton in 1813, but the link to alcohol abstinence wasn't made until the 1950's.

Historically, older **white males** had a higher risk of developing severe alcohol withdrawal.

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Throughout the years, alcohol and drug withdrawal have been seen frequently in the corrections setting. This is due to many offenders being addicted to alcohol or drugs, and a sudden interruption of alcohol or drug use occurs when offenders are taken into custody.

Because of the volatile situation of an individual withdrawing from alcohol or drugs, correctional health care providers and custodial staff should be properly trained to recognize the symptoms and respond promptly.

# ALCOHOL-RELATED DEATHS: THEN AND NOW

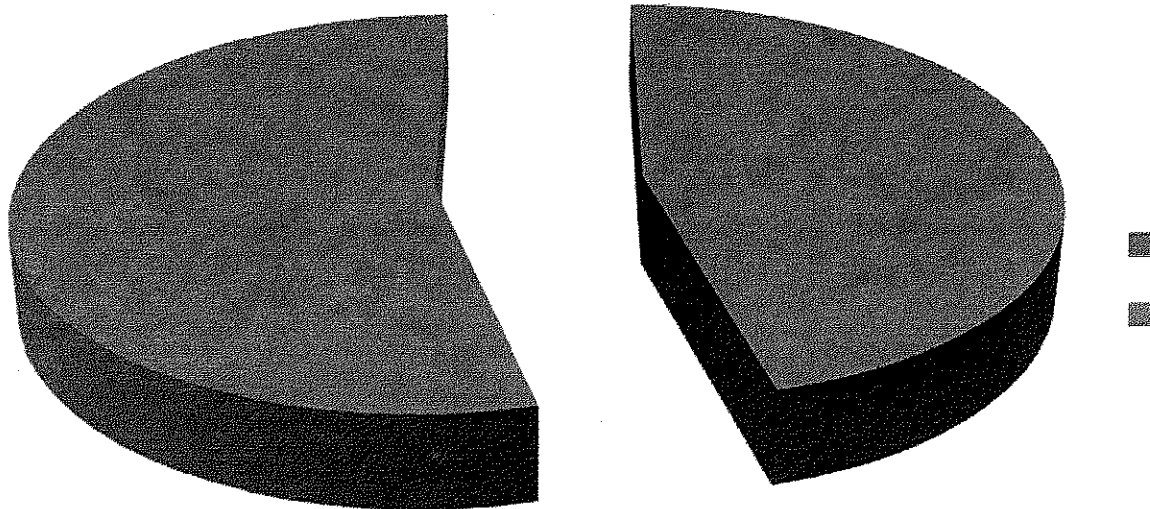
According to the Center for Disease Control (CDC), in the United States, excessive alcohol consumption was the third leading preventable cause of death in 2001. It was estimated that in 2001, approximately 75,766 deaths were attributed to the harmful effects of excessive alcohol use.

In 2008, a more recent study was done, that determined that in 2001-2005, approximately 79,000 occurred annually that were attributed to excessive alcohol use.

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# ALCOHOL RELATED STATISTICS

= 75,766



# STATISTICS CON'T

Statistics provided by <http://www.wellcon.net>

- 1 in 13 Americans abuses alcohol
- Alcohol is the 2nd leading cause of death in correctional facilities
- Economic losses from alcoholism exceed \$185 Billion per year
- Alcohol is the proximate cause of 100,000 deaths per year



NO ALCOHOL WAS INVOLVED AT THIS EVENT!





The following is a protocol implemented by Salt Lake City, as well as other departments.

- Patients identified at booking
  - Serial CIWA (Clinical Institute Withdrawal Assessment) exams performed twice daily
  - Exams quantified to show variations between assessments and to show trends
  - Very aggressive medical treatment tied to CIWA score suppression
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# What are Delirium Tremens?

Delirium Tremens are psychological and physical conditions a body goes through when the body has a dependency on alcohol or drugs and the intake of them is suddenly stopped.

DT's mainly occur in individuals that have had a prolonged heavy use of alcohol or some drugs.

It is estimated that only approximately 50% of alcoholics will develop any significant withdrawal symptoms upon stopping alcohol intake, and of these, approximately 5% of cases of acute alcohol withdrawal progress to DT's.

However, delirium tremens did have a significant mortality rate prior to modern medications and treatment, reaching 35% of those experiencing DT's. Today's estimate is roughly 5-15%.

# A WALKTHROUGH OF COMMON ALCOHOL WITHDRAWAL

- Alcoholic tremulousness occurs 6-12 hours after cessation or decrease of alcohol intake and is characterized by autonomic hyperactivity; anxiety, tremors, hypertension, tachycardia, nausea, vomiting, or diarrhea.
- Alcohol withdrawal seizures or "rum fits" occur at 6-48 hours after last drink, most commonly within the first 24 hours.
- Alcoholic hallucinosis (formerly known as Kraepelin's hallucinatory insanity) occurs 10-72 hours after the last drink.
- Delirium tremens usually occurs 3-7 days after the last drink.

# **BREAKDOWN OF WITHDRAWAL STAGES**

## Stage 1: Tremulousness

- Seen when cellular tolerance to ETOH (ethanol) ingestion develops
- Hypersympathetic state similar to hyperthyroidism
- Often treated with another drink
- 1-5% will progress to full DT's

## **Treatment of Tremulousness**

- Detoxify patient over 3-5 days
- Use benzodiazepines
- Nutritionally fortify
- MVI (for niacin)
- Thiamine
- Reassess regularly for progression to higher stages

## **Nutritional Support**

- Alcoholics have NO glycogen stores
- FEED THEM!!!
- Alcoholics tend to become hyperglycemic for several hours
- DO NOT GIVE INSULIN unless DKA or BS > 500

## **Benzodiazepines**

- Significant reduction of seizures
  - Significant reduction of delirium
  - All equally effective; longer half-lives preferred for smoother withdrawal, less abuse potential
  - Librium is cheapest!!!
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## **Stage 2: Hallucinosi**

- Seen in 25% of “professional” drinkers
- Visual 5x more common than auditory
- Treatment
  - More aggressive benzodiazepine use
  - Hydration
  - Possible IM Haldol

## **Stage 3: Withdrawal Seizures**

- Usually 1-6 seizures
- Usually tonic-clonic, rarely status
- Majority occur within 48 hours
- If patient medicated with benzodiazepine and has seizure, needs workup
- One study of 259 alcoholics with seizures showed that 6.2% of them had intracranial lesions by CT

## Stage 4: Delerium Tremens

Moore (1915-1935)

- 2375 Patients
  - 1915 Mortality = 52%
  - 1935 Mortality = 14%
    - What changed:
  - No nurses
  - Dehydration
  - Physical restraints
  - Neuroleptics
  - Be vigilant for pneumonia, GI bleeds, sepsis, CNS trauma, and meningitis
  - TRANSFER to Emergency Department
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Today, the mortality rate is much lower, due in large part to modern medicine and treatment practices.

However, delirium tremens can still be fatal, even with treatment. That's why recognition and proper screening is crucial when an individual with a prolonged heavy drinking history is taken into custody.

Many jails simply aren't equipped to counter the effects of DT's, and therefore the only response is to send the individual to the hospital.

Unfortunately, because the symptoms and actual DT's may not set in until a few days after intake, this puts pressure on the facility housing them.

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Learn to recognize the symptoms of Alcohol Withdrawal.

# SYMPTOMS OF DELIRIUM TREMENS

Symptoms may occur as little as 72 hours after the last drink, or sometimes not until 7-10 days after the last drink.

## Symptoms include:

- Body tremors
- Psychological changes include (but not limited to):
  - Confusion
  - Delirium
  - Hallucinations
- Seizures
- Anxiety
- Depression
- Nausea
- Insomnia

## SYMPTOMS CON'T

Other symptoms include:

- Palpitations
- Loss of appetite
- Pale skin
- Sweating
- Chest or Stomach Pain
- Fever



Delirium Tremens is a medical emergency that can ultimately lead to death without proper treatment. Delirium Tremens usually requires hospital treatment.

Health Care providers usually provide a physical exam on the patient.

Physical signs they may encounter are:

- Heavy sweating
  - Irregular heartbeat
  - Eye muscle movement problems
  - Rapid heartbeat
  - Rapid muscle tremors
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Tests that may be performed are as follows:

- Chem-20 (Comprehensive Metabolic Panel) – A group of chemical tests performed to gather information about the body's metabolism. It gives some indication of how the liver and kidney's are working.
- Electrocardiogram (ECG) – A test that records electrical activity of the heart. It measures information such as damage to the heart, the speed of the heartbeats, and the size of your heart chambers.
- Electroencephalogram (EEG) – A test performed to detect electrical activity of the brain. EEG's are used to detect signs of seizures, as well as causes of confusion, and to evaluate head injuries.
- Toxicology Screen – Various tests to determine the type and approximate amount of legal and illegal drugs a person may have been using.

As previously stated, a hospital stay is usually required for someone suffering from delirium tremens. Certain information is checked on a regular basis, such as bodily chemistry results, body fluid levels, and vital signs.

Without proper treatment, people suffering from delirium tremens are more likely to die. For this reason, the correctional institutions should have proper training for detecting and responding to a person experiencing delirium tremens.

Because there are such a wide range of symptoms, and because the symptoms can trigger other adverse effects, timely treatment is necessary to insure the safety of the individual. Symptoms that can occur that may have adverse effects include seizures and heart arrhythmias.

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In some cases, people experiencing DT's may be placed in a sedative state until withdrawal is complete.

## **CAUSES**

Risk Factors for developing DT's:

- Prior ethanol withdrawal seizures
- History of delirium tremens
- Concurrent illness
- Daily heavy and prolonged ethanol consumption
- Greater number of days since last drink

# **WHAT DOES ALL OF THIS MEAN TO THOSE IN CORRECTIONS?**

**One of the main purposes of those in corrections, is to make sure that the alleged offenders safety is at the top of the priority list. It is our job to make sure nothing happens to offenders while in custody.**



**This includes their health and safety, even if they have compromised them prior to arriving at the facility. In other words, if an offender has a life-long history of heavy drinking of alcohol, and has become dependent on alcohol, and then become incarcerated, their body will begin to withdrawal from the lack of alcohol.**



In corrections, liability is part of the job. According to <http://www.correctionalnurse.com>, roughly 85% of all inmates as having some sort of substance involvement, and over half of all American inmates are incarcerated due in some way to alcohol.

Because the prevalence of heavy drinking in individuals taken into custody is relatively high, **adequate screening at intake is important** to anticipate any problems and respond immediately.

Staff training, especially in small jails where medical staff is not always available, is crucial to prevent problems from individuals who are candidates for DT's, as well as provides some litigation mitigation.

**Many small jails are not capable of taking care of this type of situation, due to not having adequate medical staff at all times.**

Some of the larger jails have the capacity to provide better care for inmates that may suffer from DT's, whereas the smaller jails really have no choice but to send the offenders to the Hospital.

The impact this can have on a small jail can seem overwhelming. Why?

- Hospital bills are expensive and put a tremendous strain on budgets.
- Jails have to maintain a ratio of officers to inmates as required by TCJS. Officers may have to provide security at the hospital around the clock while the inmate is admitted.
- Lawsuits that can and more than likely will occur from inmates that suffer injury while incarcerated and prior to hospitalization can be devastating to small counties.

Because of the seriousness and nature of delirium tremens, hospitalization is a necessity. Health Care Providers can provide the necessary treatment recommended for battling DT's.

Note: DT's can derive from not only cessation of alcohol intake, but there are certain sedative-typical narcotics that once a person is dependent on, can cause symptoms of delirium tremens.

# TREATMENTS ACCORDING TO <http://emedicine.medscape.com>

## Emergency Department Care

- .Secure airway appropriately
- Oxygen supplementation
- Large-bore intravenous line
- Fluid resuscitation with crystalloid solution
- Cardiac monitor
- Bedside glucose testing with supplementation if needed
- Thiamine administration (100 mg IV) to treat or prevent Wernicke encephalopathy
- Sedation with benzodiazepines
- Check electrolytes, replace as needed
- Physical restraints often needed to ensure patient and staff safety (use in conjunction with chemical restraints)

## MEDICATIONS

Parenteral benzodiazepines are the drugs of choice for treatment of delirium tremens (DT). Patients may require massive doses to achieve sedation. In patients refractory to benzodiazepine therapy alone, barbiturates or propofol should be added.

Barbiturates such as phenobarbital and pentobarbital are also useful to treat delirium tremens. However, compared with benzodiazepines, they have a lower therapeutic index and can cause respiratory depression and hypotension. Barbiturates should be reserved for patients refractory to or unable to take benzodiazepines.<sup>[7]</sup> These patients all need ICU monitoring, and many will need to be intubated and mechanically ventilated.

## **FOLLOW UP**

As far as follow up treatment goes:

- Admit all patients with delirium tremens (DT) to the ICU.
- Continue pharmacological sedation in a symptom-triggered dosing regimen.
- Continue antibiotics if indicated

## **Complications**

- Oversedation
- Respiratory depression, respiratory arrest, intubation
- Aspiration pneumonitis
- Cardiac arrhythmias

## **CONCLUSION**

Delirium Tremens, although rare, is deadly and impacts the corrections field tremendously. While custodial staff and medical personnel are responsible for the safety and lives of those incarcerated, without proper training in recognition and response, an individual in custody may possibly experience DT's while in custody.

The bottom line is, learn to recognize the symptoms of delirium tremens in order to anticipate individuals who might experience them. Learn to respond to an individual experiencing DT's.

Knowledge and training are required to accomplish these goals.

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# REFERENCES

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