

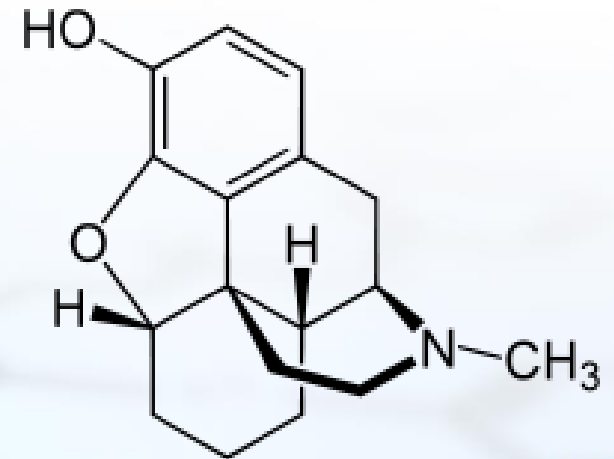
# One Minute Brief

*Drug: Krokodil*



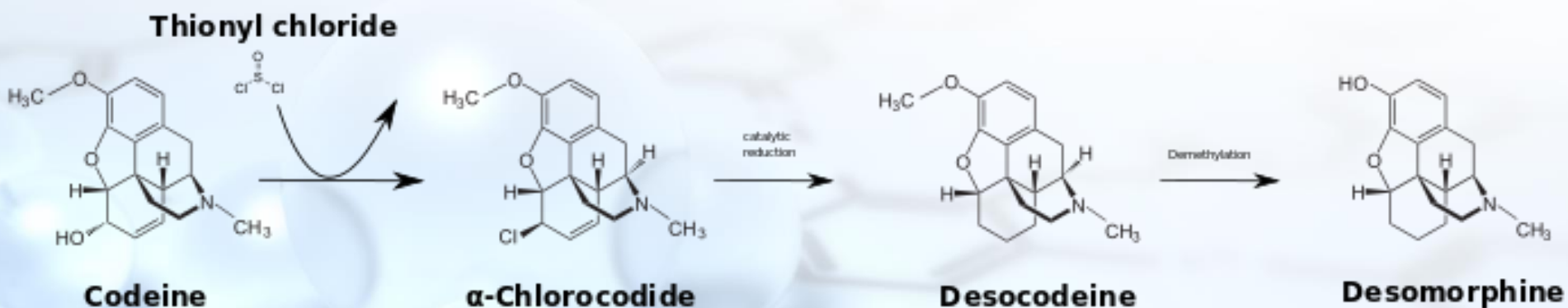
# Desomorphine (dihydrodesoxymorphine)

Street name "**Krokodil**", given to the drug because of the greenish "scaly" appearance of necrotic skin associated with injection sites. Krokodil is an opioid (*recall the difference between opiates and opioids from the Rx drugs classes*) derived from morphine and **used as a substitute for Heroin**.



# Krokodil Synthesis

Let's differentiate between Desomorphine and "Krokodil". Desomorphine has been prescribed to patients under the name Permonid and is said to be 8-10 times stronger than Morphine. "Krokodil" is the street drug that includes Desomorphine (most times), as well as a number of very problematic impurities. Krokodil is synthesized from Codeine tablets using agents such as petroleum-based solvents, iodine and red phosphorus (much the same way Methamphetamine is made from Pseudoephedrine). Crude synthesis has been reported to take about 30 minutes to an hour.



# Krokodil Drug Administration

Krokodil is generally injected intravenously, much the same as Heroin, and it is these injection sites, that become infected and necrotic, that is giving us the shocking pictures and videos on the internet. Early vein sclerosis (hardening) that generally causes users to move to skin popping and muscling is apparently common in Krokodil use (occurs in Heroin use as well).





# Krokodil: History

Desomorphine was patented in the 1930's in the United States. More recently, the synthesis of Krokodil from Codeine tablets increased in popularity in the early 2000's in Russia. It wasn't until 2010 that Krokodil garnered media attention due to pictures and videos of necrotic arms and legs resulting from Krokodil use.



# Krokodil: Points of Discussion

1. Krokodil is used in Russia as a substitute for Heroin because Heroin is much more expensive there. The precursors for Krokodil (Codeine tablets) are sold Over The Counter (OTC) there. The synthesis is cheap, easy, and quick, but leaves behind a lot of dangerous impurities. Krokodil use is more prevalent in poorer sections of Russia. The first known cases of Krokodil use in the USA was this month in Arizona (hence the news coverage last week).
2. Pictures and videos of necrotic arms and legs, etc from alleged Krokodil use are shocking to the conscience and all over the internet. Many of these are fake and/or cannot be verified to be the result of Krokodil use. Proceed with caution when using these in presentations or warnings to teens or staff. However, some of these pictures are legitimate and present a valid cause for concern. The science of this disturbing drug packs enough punch to stand on its own when designing a prevention packet. Just my two cents.

# Krokodil: Use in the USA

Widespread Krokodil use in the USA has many barriers that do not exist in Russia (such as Heroin being much cheaper, Codeine being controlled, etc). I expect we will see more of these cases, but there simply is not a realistic large scale motivation to move from Heroin to Krokodil. Let's take a look at why:

- Cost of Heroin: Very cheap in the United States (in almost all regions of the US) as compared to remote regions of Russia, where Krokodil is more prevalent
- Shorter High (less 4 hours) with Krokodil than with Heroin (4-6 hours)
- Extreme negative side effects of Krokodil (pictures are worth a thousand words)
- Russian pharmacies allegedly sell "packets" that include the codeine tabs, iodine, and a syringe for \$5 (most of what you need to make and use Krokodil)

Not sure that the environment in the US supports wide spread use of Krokodil, but given the media attention lately, you may get some questions on it. It is something to keep an eye on and I'll update you if we see more cases in the USA.