

# What you need to know about: Methamphetamine

aka

speed, crystal, ice, glass, shard, Tina



Meth is a form of amphetamine that is able to reach the brain faster and to a higher degree.



Two most common forms of administration are injection and inhalation (smoking).



Smoking and injection result in the fastest onset of effects leading to a feeling of euphoria in up to 20 minutes.



**Meth** has been replacing many other street drugs due to its **low cost and accessibility.** **#1** reason for use

Other reasons for use:

- euphoria
- feeling powerful
- weight loss
- self-medication
- increase in energy & productivity
- Party & Play (meth use and sexual activity)

How does meth work ?



1 Release of **dopamine** and activation of reward pathways

2 Increased release of **serotonin** and **norepinephrine**

3 Inhibition of **MAO enzymes** prolong the effects

How much meth is being consumed ?

Chronic use  
0.7 g to 1 g  
per day



"Binge" use  
2 to 4 g per  
binge

What are the adverse side effects of meth use ?



Hyperthermia



Mood Changes  
Seizures/Coma  
Stroke



Cavities  
Dry Mouth



↑ Blood Pressure  
Heart Rate  
Cardiac failure



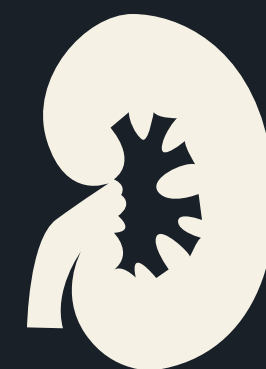
Reduced  
wound  
healing  
Infections



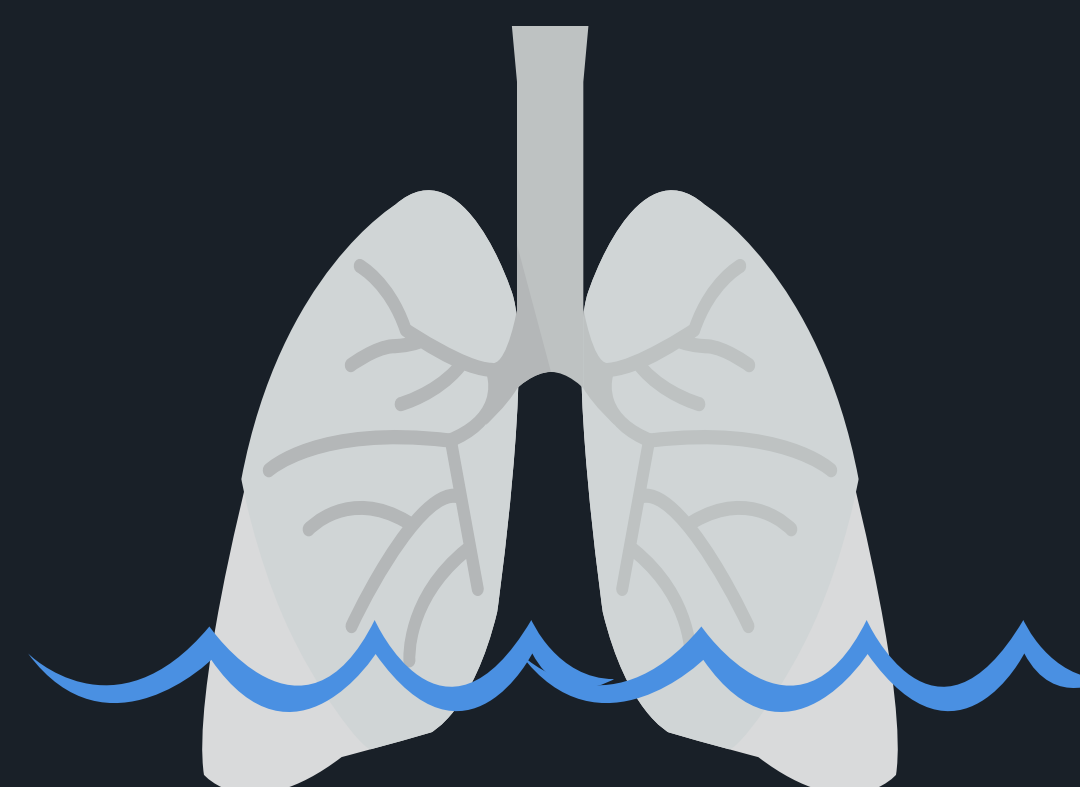
↓ Muscle Mass  
Muscle Damage



Malnutrition  
↓ Appetite



Kidney failure



**Pulmonary edema** is one of the most common causes of methamphetamine associated death!

## Meth comes in 3 forms:

### Powder

(lowest purity, 10%)

- white or yellow granules
- cutting agents often used

### Base

(20 % purity)

- white or yellow or brown paste
- dissolved with an acid & water

### Crystal

(up to 80% purity)

- white or translucent crystal
- aka crystal meth or "ice"

# Pharmacokinetics

## Drug Interactions:

### CYP2D6 inhibitors

may lead to higher levels of meth and potential for overdose.

E.g. celecoxib, citalopram, codeine, fluoxetine, methadone, paroxetine, ritonavir, valproic acid

### CYP2D6 inducers

may result in lower levels of meth.

E.g. dexamethasone

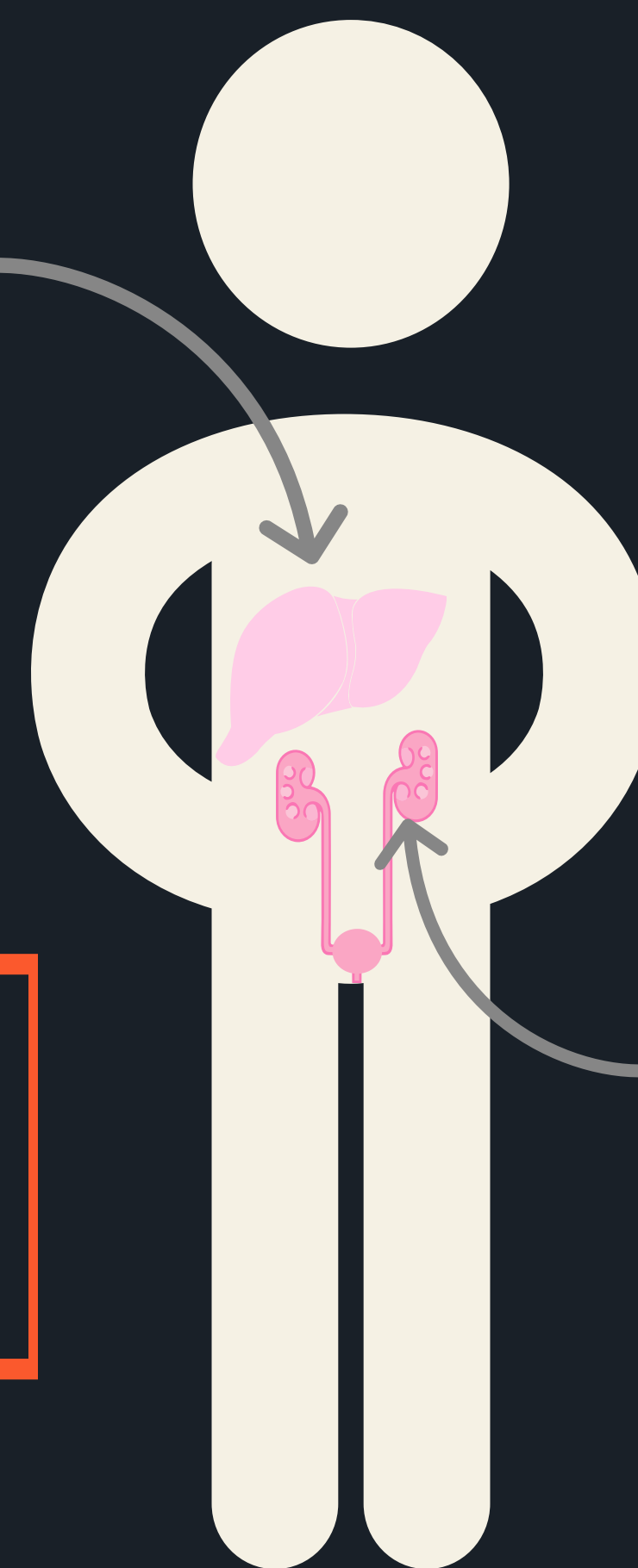
## Metabolism

through CYP450 2D6 liver enzymes

MAOIs (e.g. moclobemide and phenelzine) can increase the duration of action and intensity of meth!

## Excretion

70% via kidney which may lead to accumulation in kidney damage



# Stages of Intoxication



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