



PENINGTON
INSTITUTE

Gamma hydroxybutyrate (GHB) / Gamma butyrolactone (GBL) / 1,4-butanediol (1,4-B)

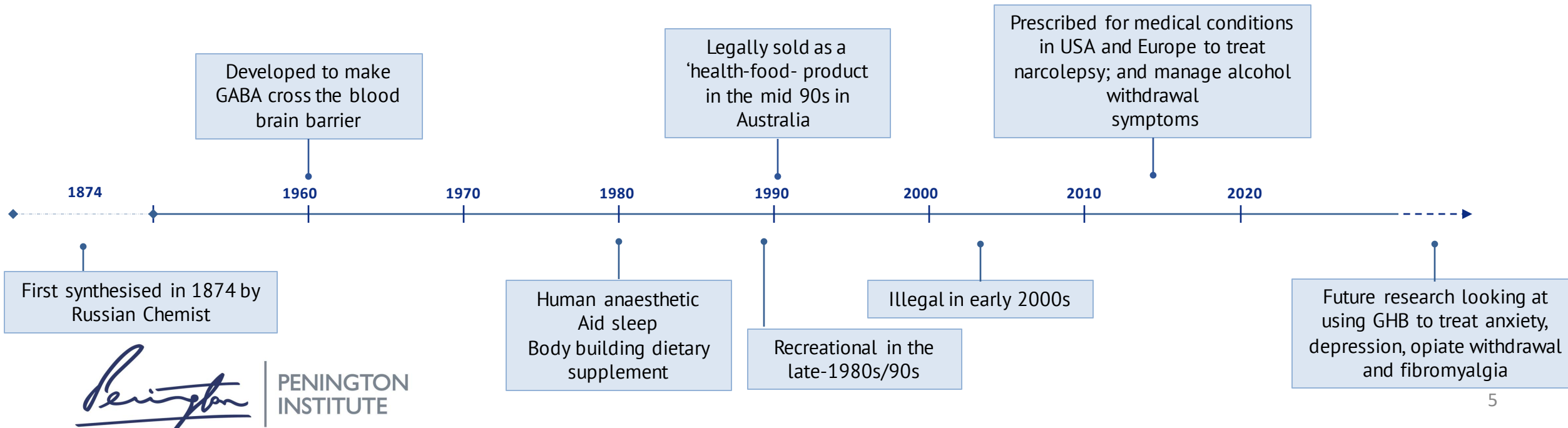
**Steph Tzanetis & Tristan Francis | 26 May 2023
Workforce Development Team**



What is G?

GHB / GBL / 1,4-B

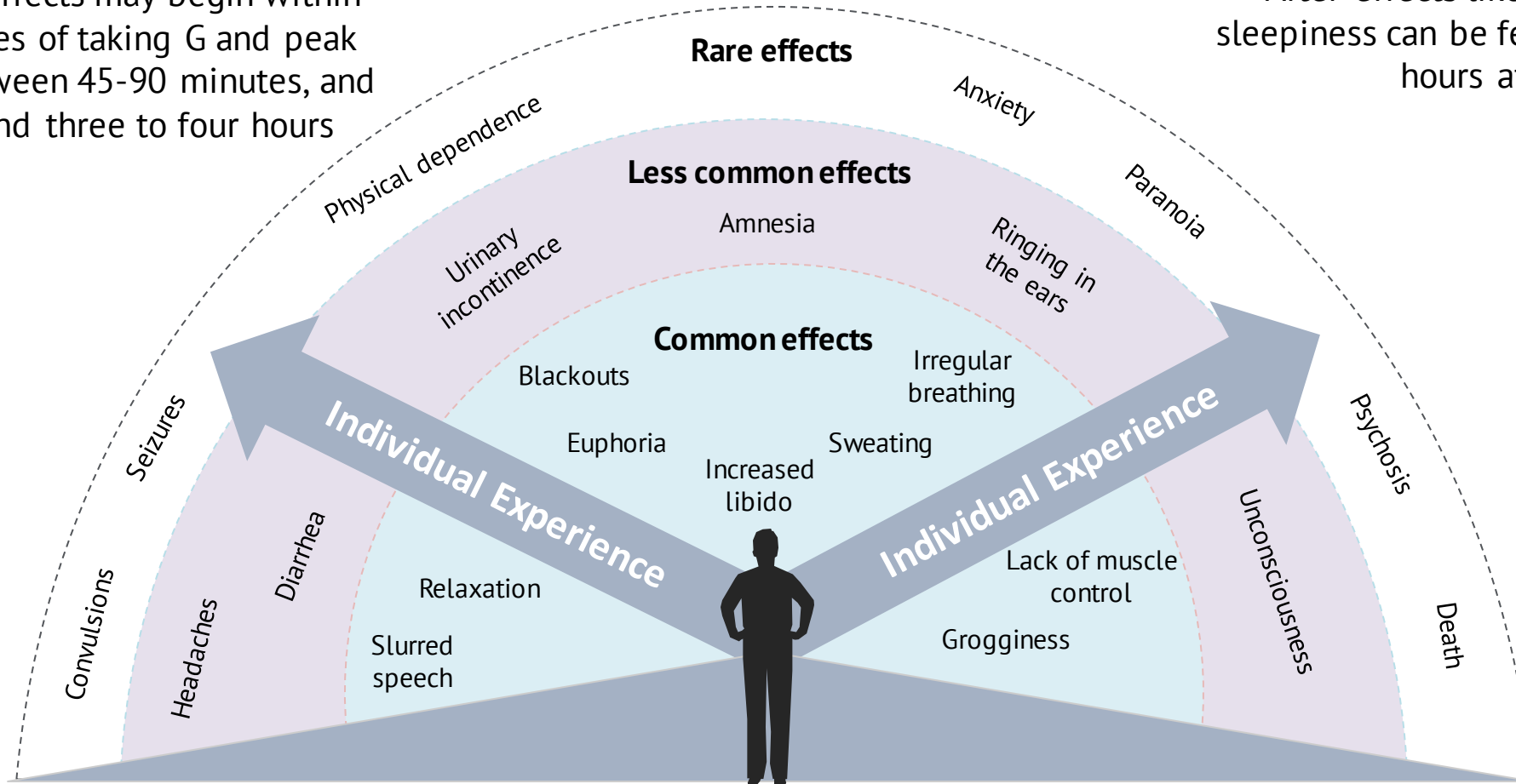
- GHB (gamma hydroxybutyrate) is a CNS depressant drug & occurs naturally in the body
- G is described as tasting salty, while gamma butyrolactone (GBL) and 1,4-Butanediol (1,4-B) are soapy, bitter or like plastic
- G is taken orally
- GBL and 1,4 -B are chemicals that are closely related to GHB and sold as substitutes
- Once GBL or 1,4 - B (pro-drugs) enter the body, they convert to GHB almost immediately by enzymes in the liver



Effects of G

The following effects may begin within 10 to 30 minutes of taking G and peak somewhere between 45-90 minutes, and may last around three to four hours

After-effects like grogginess and sleepiness can be felt for as long as 12 hours after use



Recognising G intoxication

- Presents like **Alcohol Intoxication + Excessive Sweating**:
 - Slurred speech
 - Slowed / depleted motor skills
 - Paradoxical presentation i.e. CND but where person may be very active
 - Breathing is not impacted like with opioids
- Other substances can produce effects that are mistakenly labelled as G intoxication, for example:
 - Other depressants (particularly **alcohol or benzodiazepines**)
 - **Ketamine** (this dissociative drug is cardio stimulant and respiratory depressant)
 - **MDMA** (particularly in stronger doses, as this is an anxiolytic / anti-anxiety stimulant drug)

Responding to a G overdose ('blown out')

1

If they are still conscious/able to be woken by prompts

Keep them awake and seated on the floor; if you feel comfortable sit behind them, brace their shoulders, and keep them responsive using a trapezium pinch – A person in this state may make sudden jerking, tonic (rigid) movements, or be agitated when woken up.

2

If they are not responding to pain prompts

Put them in the recovery position (lie them on their side), ensure their breathing is adequate (12-20 breathes p/m), and monitor their breathing until they wake up

3

If unconscious, unresponsive & breathing is impacted call 000

Medical first responders are only interested in a patient's health, not the criminal implications of drug use – A medical intervention usually only requires monitoring for 5-6 hours.

Dependence and Withdrawal Management

Withdrawal stage	Symptoms
1-hour to <24-hours since last use	Insomnia Anxiety Restlessness Tremor Sweating Tachycardia Nausea Vomiting Confusion
More than 24 hours since last use	Transient tachycardia and hypertension Agitation and combativeness Visual, auditory, olfactory and tactile hallucinations Autonomic instability Seizures Delusions Paranoia Delirium

G Resources for Frontline Workers and Peers

Web Text / Downloadable pamphlets

- [Penington Institute](#)
- [Alcohol and Drug Foundation](#)
- [DanceWize NSW](#)
- [Hi-Ground](#)
- [HRVic DanceWize](#)
- [Insight](#)
- [London Friend \(UK\)](#)
- [Pivot Point](#)

Video

- [Global Drug Survey, GHB/GBL](#)
- [Pivot Point](#)
- [GHB – Informing Clinical Practice by Dr Jonathan Karro](#)

Academic references

- [The assessment and management of gamma hydroxybutyrate use in general practice](#)
- [Unity in diversity: A systematic review on the GHB using population](#)
- [Detoxification with titration and tapering in gamma-hydroxybutyrate \(GHB\) dependent patients: The Dutch GHB monitor project](#)
- [Intoxication by gamma hydroxybutyrate and related analogues: Clinical characteristics and comparison between pure intoxication and that combined with other substances of abuse](#)
- [Treatment consumption and treatment re-enrollment in GHB-dependent patients in The Netherlands](#)
- [Baclofen to Prevent Relapse in Gamma-Hydroxybutyrate \(GHB\)-Dependent Patients: A Multicentre, Open-Label, Non-Randomized, Controlled Trial](#)
- [Turning Point AODstats: Ambulance attendances](#)
- [Penington Institute \(2022\). Australia's Annual Overdose Report 2022. Melbourne: Penington Institute](#)



penington.org.au