Introduction
GHBA is a natural endogenous neurotransmitter. It can also be ingested orally and crosses the blood-brain barrier. It is structurally similar to gamma-amino butyric acid (GABA) and acts on GABA & GHB receptors in brain with effects on the dopaminergic system. It is rapidly eliminated and not detectable after: 4 hours in the blood 12 hours in the urine

The more recent primary mode of GHB abuse worldwide has been for its subjective effects on: Sociability – increased confidence Sexual drive – higher libido & desire Sleep – chronic usage & higher doses

GHB & GHB are initially consumed during:
Club & Parties – a precursor to after-parties After-parties – Drug cocktail, with Ecstasy, LSD, Alcohol, Mephedrone, Cannabis, Sildenafil (Viagra), Cocaine, Crystal Meth Saunas, Sex clubs & Chemsex parties – multiple partners (average of 5). Risk of unprotected consensual sex, and unprotected non-consensual sex (1 in 4 GHB users pass out). 72 hour Chemsex binges may be the “Perfect Storm” for HIV/ Hepatitis C transmission. People involved in these parties may end up losing days/turning up too late for anti-viral drugs (PEP) or emergency contraception. It is very easy to overdose on G because:• Strengths can vary from shipment to shipment • Doses involved measured in such small quantities • Narrow therapeutic index 1 milligram = Euphoria 1.5 milligrams = Sleep

Symptoms of GHB Overdose and Withdrawal 1 2
Severity Overdose Withdrawals
Mild Euphoria, nausea, ataxia, hyperventilation, vomiting, diarrhoea, headache, amnesia Anxiety, tremor, insomnia, nausea & vomiting, hypotension, tachycardia
Moderate Confusion/psychosis, agitation, drowsiness, tremor, myoclonus, urinary incontinence, hypotension, hyponatremia, hypothermia, hypotension, Bradycardia Severe Anxiety, confusion, delirium, delirium, visual hallucinations

Management of GHB Overdose and Withdrawal:

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Acute Clinical Management</th>
<th>Overdose</th>
<th>Withdrawals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard medical assessment</td>
<td>Urine Drug Screening – outrule other causes</td>
<td>Current Substance (Polysubstance Use)</td>
<td>Quantify intake: &quot;round the clock use&quot; – dosing every 1 – 2 hours</td>
</tr>
<tr>
<td>Laboratory Investigations</td>
<td>Hypertension, Hypoglycemia, Hypokalaemia, Metabolic acidosis</td>
<td>Baseline; B12, U&amp;E, LFT, TFT, CRP</td>
<td>Creatine Kinase – Rhabdomyolysis Unseen Drug Screen, ECG</td>
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<tr>
<td>Management/ Medication</td>
<td>TOXBASE® recommends in clinical uncertainty, consider a Naloxone (opioid antagonist) first. Medical management.</td>
<td>Chlordiazepoxide/ Diazepam Baclofen Sodium Valproate Melatonin</td>
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Maudsley Guidelines (Community Detoxification) 3 4
• Disposal of remaining supply & no GHB usage for 2 hours prior to prescribing Diazepam 20mg on 1st day of treatment
• Repeat after 2 hours & Administer Baclofen 10mg
• Dispose another 40mg Diazepam & 30mg Baclofen
– Up to 60 – 80mg Diazepam/24 hours

If total Diazepam >10mg/24 hours not controlling symptoms, medical consultation recommended. • Adjust medication daily – Seldom needed beyond 4 – 6 days • Advisable to have Flumazenil available in the event of a Benzodiazepine overdose

NHS Lothian Guidelines for GHB Detoxification 5 6

<table>
<thead>
<tr>
<th>Day</th>
<th>Chlordiazepoxide</th>
<th>Baclofen</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>40mg 12 times/day = 480mg</td>
<td>20mg TDS = 60mg</td>
</tr>
<tr>
<td>2</td>
<td>30mg 12 times/day = 360mg</td>
<td>20mg 5 times/day = 100mg</td>
</tr>
<tr>
<td>3</td>
<td>40mg 6 times/day = 240mg</td>
<td>20mg 5 times/day = 100mg</td>
</tr>
<tr>
<td>4</td>
<td>30mg 6 times/day = 180mg</td>
<td>20mg 5 times/day = 100mg</td>
</tr>
<tr>
<td>5</td>
<td>20mg 6 times/day = 120mg</td>
<td>20mg 5 times/day = 100mg</td>
</tr>
<tr>
<td>6</td>
<td>10mg 6 times/day = 60mg</td>
<td>20mg 5 times/day = 100mg</td>
</tr>
</tbody>
</table>

PRN Chlordiazepoxide 10mg to 40mg at 30-minute intervals. Max. dose: 120mg/24 hours. Baclofen 10mg 2-hourly. Max. dose: 50mg/24 hours
Baclofen is given initially in preference to PRN Chlordiazepoxide, then both given alternately PRN, as this may reduce the total BDZ dose. Also utilized in St. Michael’s Ward, Sodium Valproate 30mg twice throughout admission – prevent withdrawal seizure activity

Discussion
Why Did They Relapse?
• Previously moved in G-using circles
• Unable to have sex without GHB/GBl
• Many liked person they were, “better than without it”
• Unable to cope with withdrawal symptoms e.g. anxiety, panic attacks, & insomnia for a several weeks
• Relapse on either GHB or on alcohol

Patients can successfully detox but still be unprepared for what they might encounter on the clubbing scene
• Culture that can be defensive about right to use drugs
• Widespread normalisation and availability of drugs
• Porn-star expectations
• Online rejections
• HIV stigma

Highest risk of relapse was typically 1 week post detoxification – follow up must be structured & frequent for at least 4 weeks Baclofen could be continued for up to 2 weeks after the regimen has ceased as this medication alleviates some distress

Harm Reduction Information
Harm reduction – Patient education: Dosing of G, timings, potentially dangerous interactions with other drugs or alcohol, potential for sexual harm, or other health harms that can arise from prolonged use or overdosing, G Card, G Posters & Information Pack

Methods
Criteria for inpatient management
“Round the clock” usage – every 1 – 2 hours, throughout the day Previous unsuccessful detoxifications Medically complicated picture – Epilepsy/BZD Withdrawal seizures Alert medical teams on call

Criteria for Outpatient Management of GHB Withdrawal
Safely G usage – no regular usage of other substances No medical history of Epilepsy/BZD withdrawal seizures Supportive home environment – attend with designated non-substance using friend/family member who will monitor overnight Potential rapid access to inpatient care Early and aggressive management Close monitoring over 2 – 4 weeks for tachycardia, insomnia, anxiety, and/or any medical deterioration

Resources Involved in Development of GHB Clinic:
National Drug Treatment Centre
St. Michael’s Ward, Beaumont Hospital
Rialto Community Drug Team
General Practitioners, Medical & Psychiatric Teams in hospital GUIDE Clinics & Gay Men’s Health Project Emergency Departments & Paramedics Psychologists & Counsellors

Chemsex Working Group:
National Drug Treatment Centre
Gay Men’s Health Project
Ana Lifsey Drug Project
HIV Ireland
Gay Health Network

GAMMA HYDROXYBUTYRATE & GAMMA BUTROLACTONE (GHB/GBL): A CASE SERIES OF INPATIENT & OUTPATIENT DETOXIFICATION

Dr. Kiran Santal1, Dr. Zorina Gibbons1, Dr. Peter McCarron1, Dr. Eamon Keenan2

1National Drug Treatment Centre, Dublin 2HSE-National Clinical Lead-Addiction Services

G Clinic
G Clinic OPD
Inpatient (n=5)
Outpatient (n=20)
25%
50%
25%
25%
25%
25%
25%
25%