National Addiction Centre

Institute of Psychiatry at The Maudsley

King's College London

Understanding heroin overdose: experimental testing

Professor Sir John Strang (on behalf of Dr Caroline Jolley, Dr James Bell, Basak Tas and colleagues)

National Addiction Centre, King's College London, UK

South London and Maudsley NHS
NHS Foundation Trust

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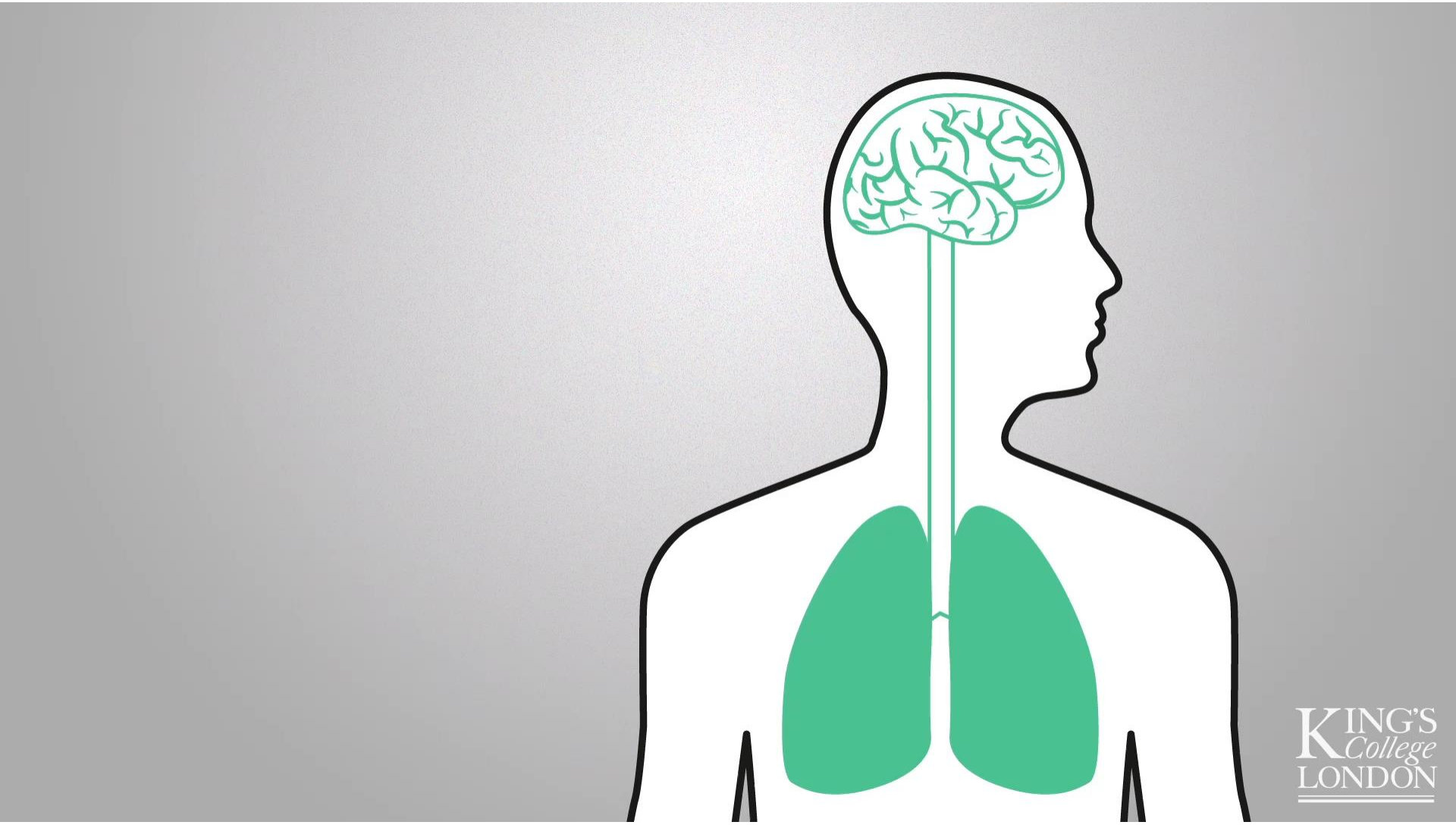
Declarations (personal & institutional)

- NHS provider (community & in-patient); also Phoenix House, Lifeline, Clouds House, KCA (Kent Council on Addictions).
- Dept of Health, NTA, Home Office, NACD, EMCDDA, WHO, UNODC, NIDA.
- Dialogue and work with pharmaceutical companies re actual or potential development of new medicines for use in the addiction treatment field (including (past 3 years) Martindale, Indivior, MundiPharma, Braeburn/Camurus and trial product supply from iGen and Camurus.
- SSA (Society for the Study of Addiction); UKDPC (UK Drug Policy Commission), and two Masters degrees (taught MSc and IPAS) and an Addictions MOOC.
- Work also with several charities (and received support) including Action on Addiction, and also with J Paul Getty Charitable Trust (JPGT) and Pilgrim Trust.
- The university (King's College London) has registered intellectual property on a buccal naloxone formulation, and JS has been named in a patent registration by a Pharma company as inventor of a novel concentrated naloxone nasal spray.
- JS and other speakers have contributed to local, national and international guidelines on treatments; speaking today in individual capacities.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Oxygen saturation: IV versus IM

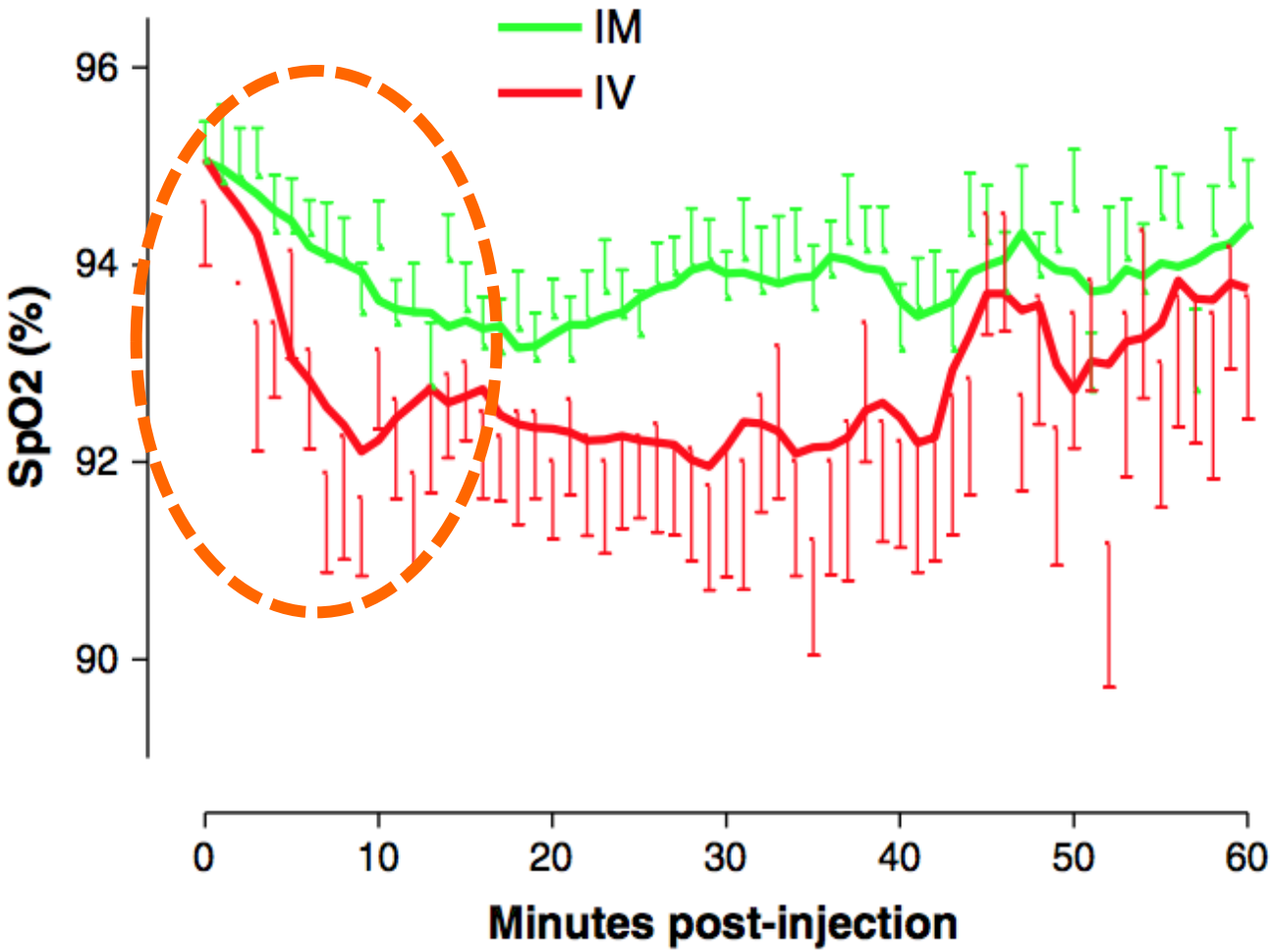
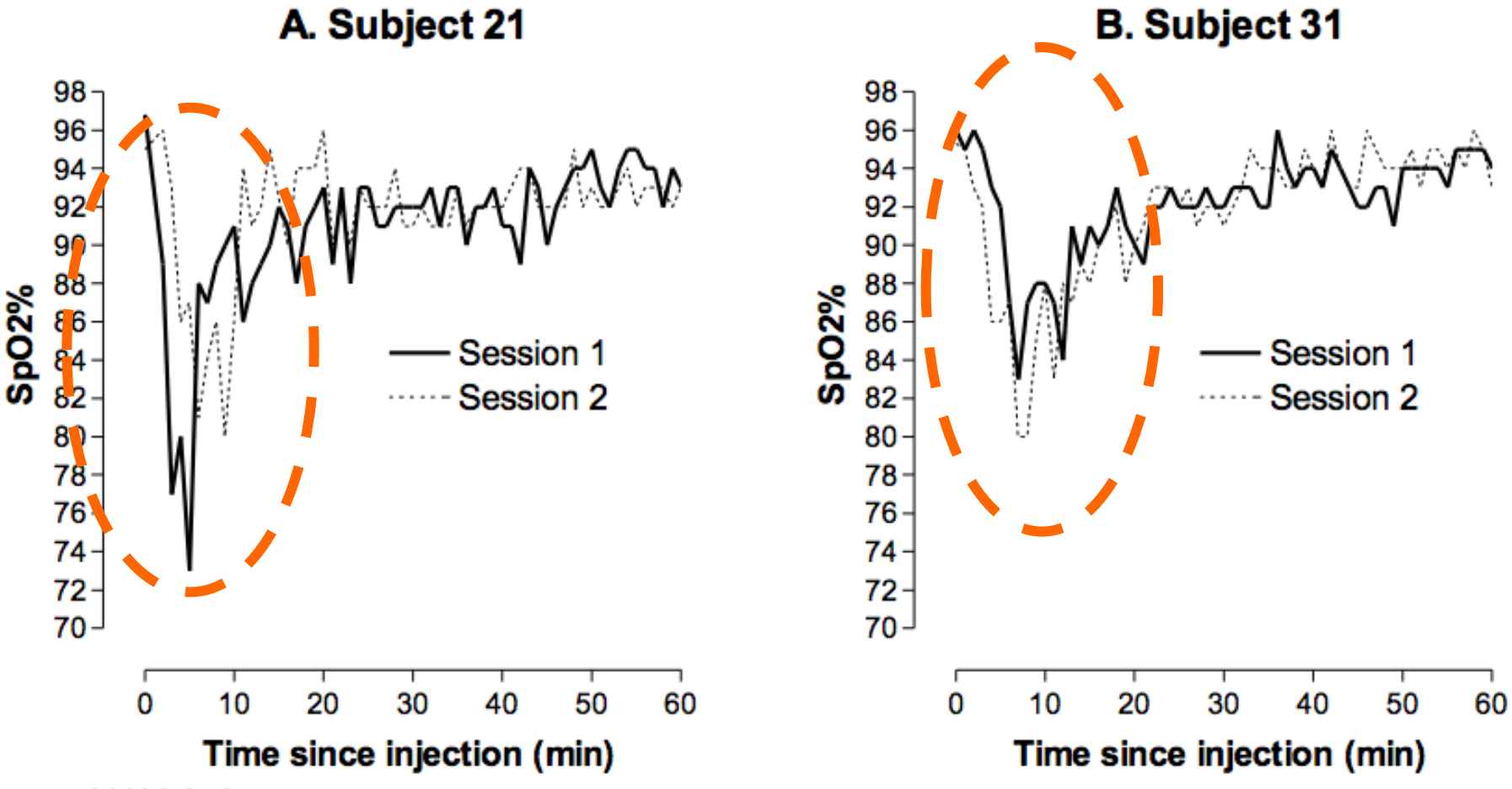


Figure 1 Oxygen saturation after intravenous (IV) and intramuscular (IM) injection of heroin

Oxygen saturation: case study



Subject 21 (41 year old male) injected 180mg heroin intravenously on both occasions.

Subject 31 (42 year old female) injected 150mg intramuscular heroin in session 1 and 160mg heroin in session 2. (unpublished)

PLOS ONE

RESEARCH ARTICLE

Understanding Heroin Overdose: A Study of the Acute Respiratory Depressant Effects of Injected Pharmaceutical Heroin

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Abstract

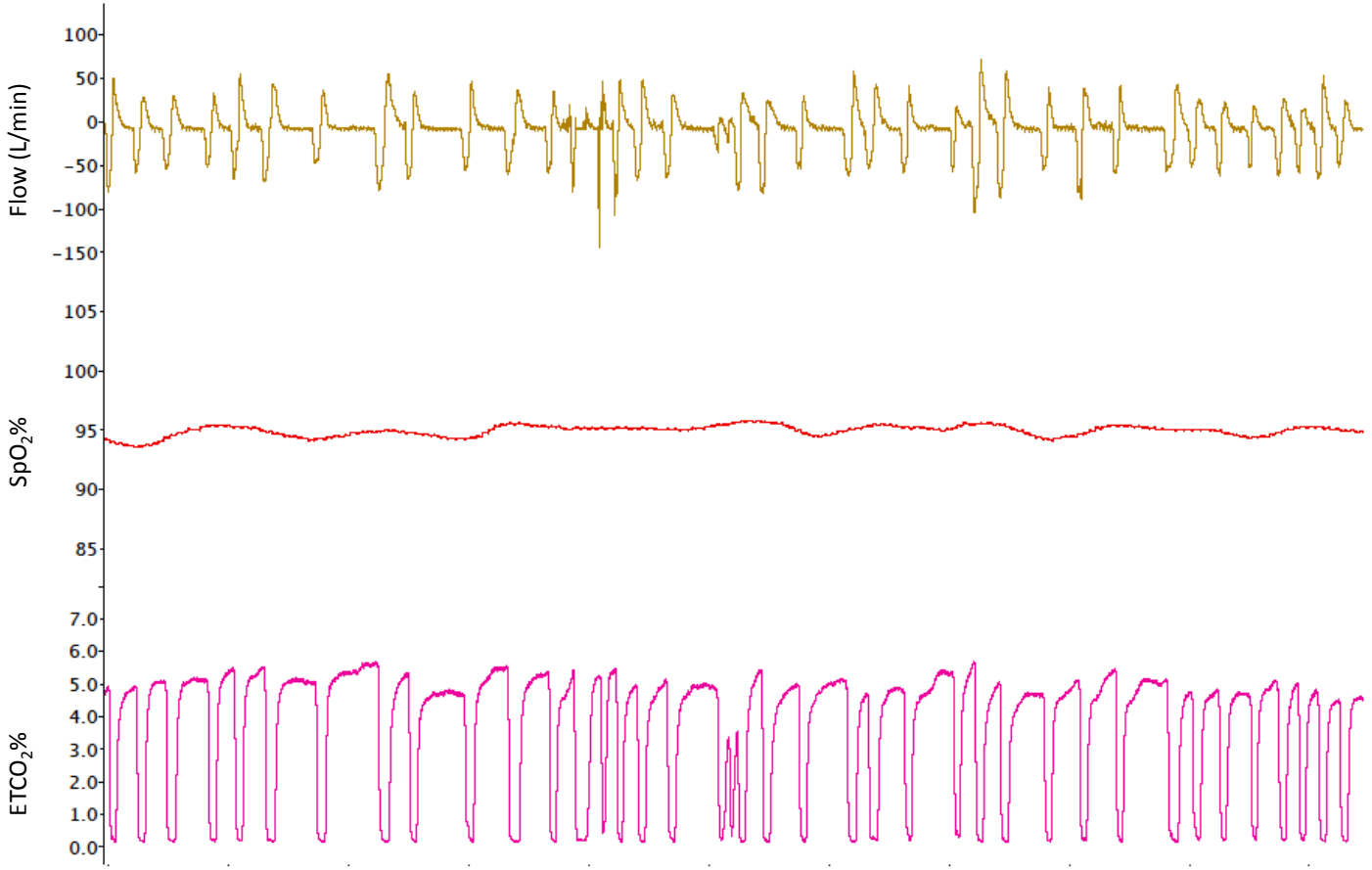
Opioids are respiratory depressants and heroin/opioid overdose is a major contributor to the excess mortality of heroin addicts. The individual and situational variability of respiratory depression caused by intravenous heroin is poorly understood. This study used advanced respiratory monitoring to follow the time course and severity of acute opioid-induced respira-

Finally some completely new data on study of acute heroin intravenous administration at different doses - showing at 'normal dose'

(work being undertaken by PhD student Basak Tas with Professor Sir John Strang and Dr Caroline Jolley and colleagues -
under research conditions within a dedicated Clinical Research Facility located in a general teaching hospital)

Monitoring how critical is ‘normal dose’?

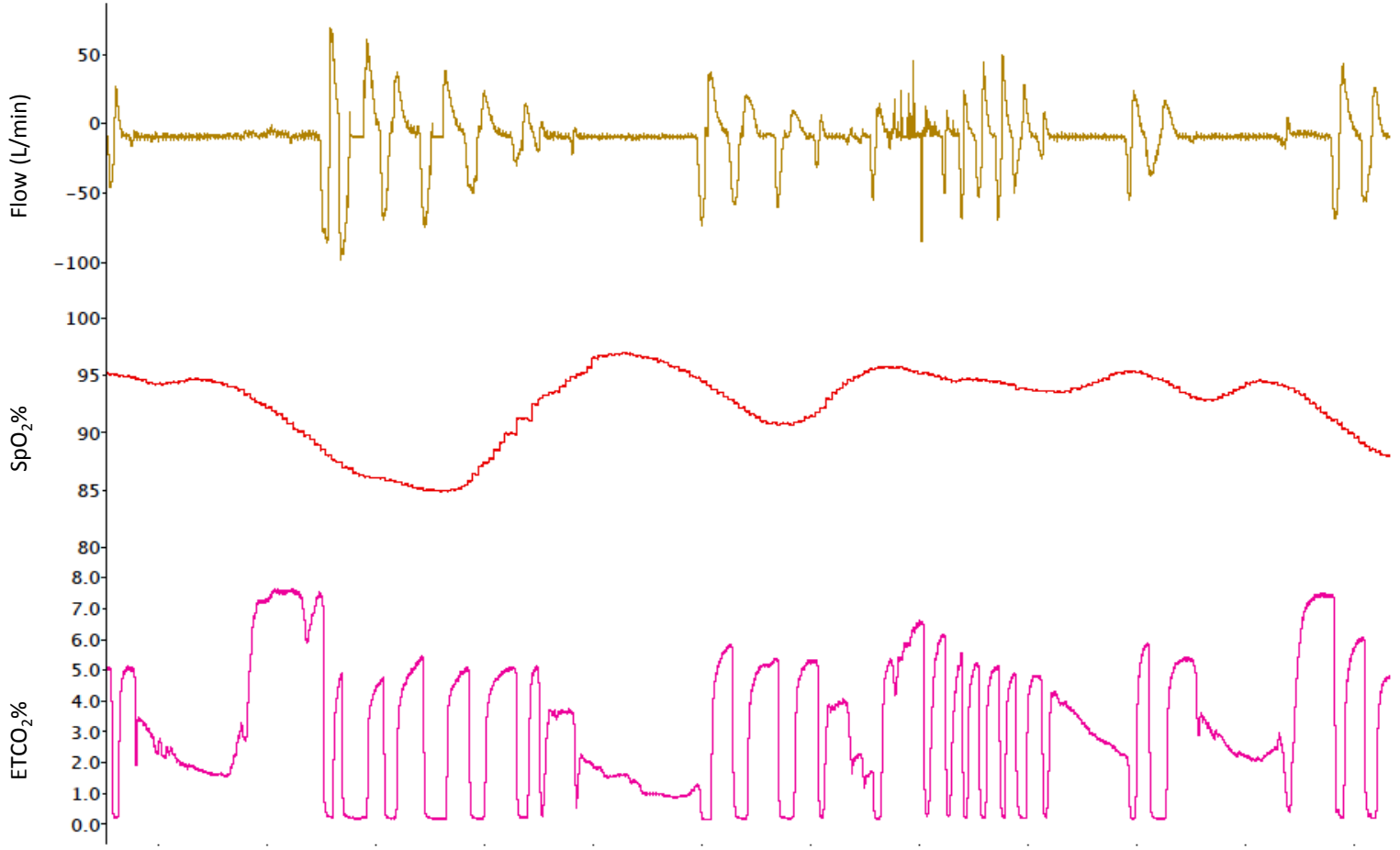
Baseline 5 minutes



Tas, Strang, Jolley et al., unpublished

Monitoring how critical is ‘normal dose’?

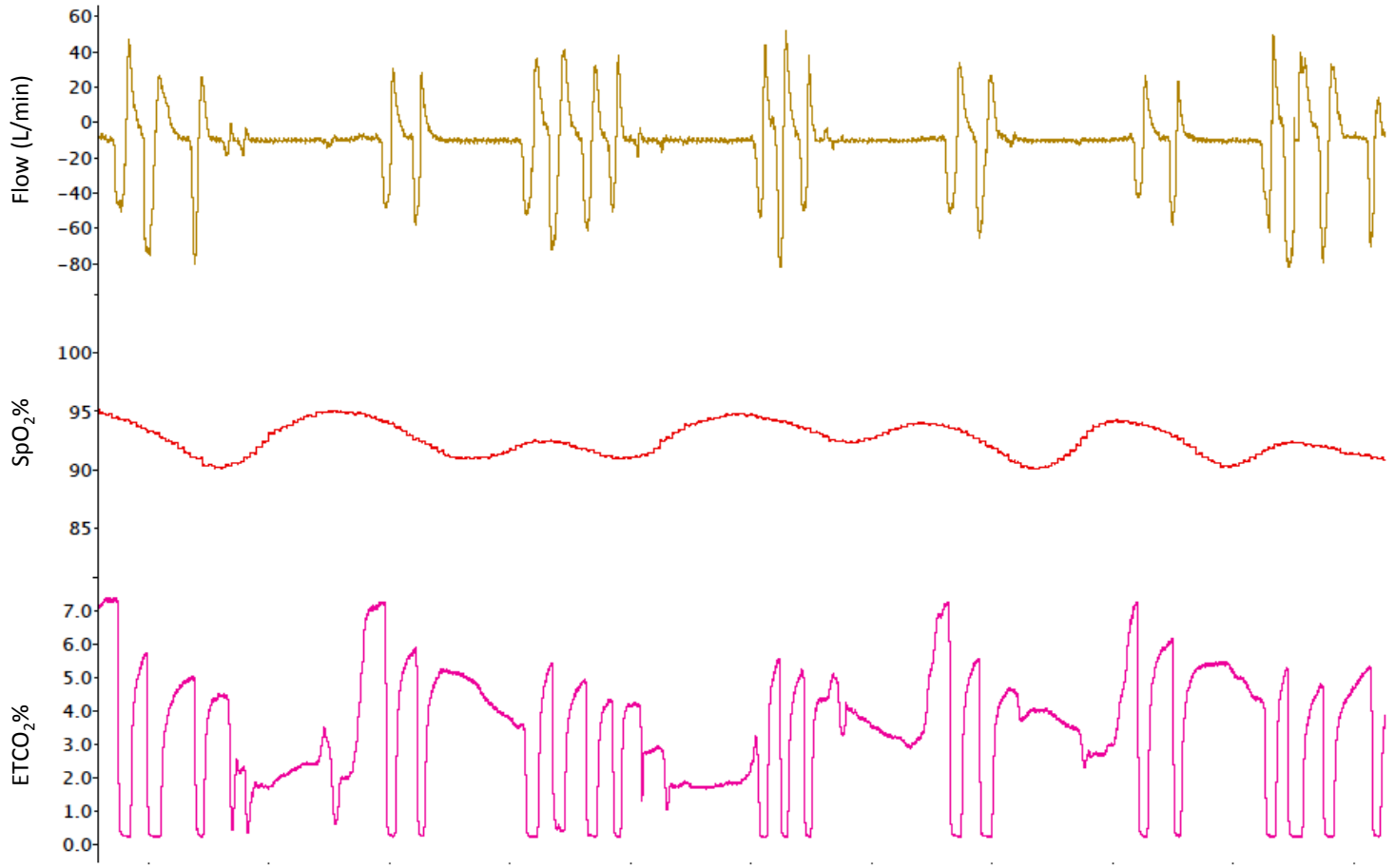
5-10 mins post-heroin IV



Tas, Strang, Jolley et al., unpublished

Monitoring how critical is ‘normal dose’?

55-60 mins post-heroin IV



Tas, Strang, Jolley et al., unpublished

Monitoring how critical is ‘normal dose’?

Future study questions:

Different dose

Different routes

Different specific opiates/opioids

Different co-drugs (bz; alcohol)

Influence of age, gender, etc

Different contexts, etc, etc

Thank you