Case Report
A 27 year old male underwent an appendicectomy after a RSI. A second cannula was inserted and on returning to the ward, the original cannula containing residual Suxamethonium was flushed and the patient suffered a respiratory arrest with explicit awareness. He was successfully mask ventilated.

Previous alerts
• NPSA Paediatric Signal Alert in 2009¹
• SALG safety update in 2012²
A 20G cannula with a needle free injector port has enough dead space to cause a respiratory arrest if filled with Suxamethonium or Opioids. RCN now recommend the use of ‘Octopus’ extensions as standard, so their use will increase³. The risk of not flushing in paediatrics has been highlighted before⁴; however the risks in adult patients are less well documented.

Risks
Paediatric: Respiratory arrest leading to hypoxic injury
Adult: Paralysis causing explicit awareness and psychological trauma. 100% of claims for brief paralysis were settled for £32,680 each⁵.

Survey
Distributed to clinicians in the Severn Deanery through the STAR Group: 127 anaesthetists responded:
• 69% consultants
• 17% registrars
• 8% core trainees.

Results
Do you routinely flush cannula before leaving theatre?
No 28% Yes 72%

Are you aware of any near misses in your hospital in the last 5 years?
No 74% Yes 26%

In your opinion do you believe there is a potential problem with retained medications?
No 46% Yes 54%

Responders Comments
• Outside of neonatal anaesthesia, this is a load of rubbish. The dead space in a cannula could be full of sux and it will be unlikely to effect an adult patient
• Pointless in adults, only an issue for children...if at all!
• Only in paediatric practice
• Theoretical risk.
• I think there is the potential for harm in paediatrics but not adults as the volumes retained/kg are not an issue with large people.

Discussion
Only half of respondents considered there to be a potential problem, thinking there was an insignificant risk due to the small residual volume. The survey highlights a significant issue: over a quarter of clinicians had experience of a critical incident due to delayed cannula flushing. There is a large discrepancy between perceived and actual risk. As over a quarter of clinicians do not routinely ‘flush their drips’, there is a significant patient safety issue. After correspondence in Anaesthesia⁶, 22 hospitals throughout Britain, New Zealand and Canada have requested the posters to date.

Recommendations
28% of clinicians in our regional survey are aware of a critical incident involving retained anaesthetic drugs.

We believe that a national campaign is needed to highlight simple solutions to an endemic problem.