

Challenge 34: Sharp and to the Point Surgery Q&As

Q. What is the current cost of hypodermic needles and syringes?

A. As a general guide, approximately £4 for 100 2ml syringes, £9 for 100 1ml syringes and £2 for 100 23G or 25G needles. Low dead space syringes cost approximately £9 - £23 for 100 and insulin syringes cost approximately £20 for 100-200.

Q. That price sounds hard to compete with, would you accept something more expensive?

A. Ideally the needles/device would be as cheap as possible to enable the replacement of all the current needles used. However, if the needles are more expensive, the Sponsors could consider using only the needles in instances where the material injected is cost or time sensitive.

Q. Would it be possible to develop insulin needles with a larger range of gauges?

A. Insulin needles are not suitable as it is not possible to draw the cells up through the needle and the syringe can't be separated from the needle. Backloading of syringes is possible, but this takes extra time and is therefore undesirable. The other disadvantage to insulin needles is that when they are used to extract contents from a vial, the stopper can blunt the needle, which can't be replaced before injecting an animal. There is also a concern about how accurate insulin needles are for small volumes, as it can be difficult to read the scale.

Q. What are the most common injection routes that you would like this device to deliver through?

A. Intravenous, subcutaneous, intramuscular and intraperitoneal.

Q. What length needle is required/what are the most common needle lengths used?

A. 10mm and 16mm are the most common needle lengths used by the Sponsors.

Q. Approximately how many needles would be required each year?

A. Approximately 1 million mice undergo procedures in the UK each year, and these may be dosed at least once (if not two or three) times a day, so there is a large market for the product.

Q. Would you be interested in a device that could speed up needle changes?

A. Yes, if there was an easy/automated way of changing needles, that would be desirable.

Q. How fast would you like to be able to remove the needle?

A. The Sponsors would like to be able to change the needle in approximately 2-3 seconds.

Q. Is the current process for needle removal safe?

A. Yes, it is not common for needle stick injuries to occur.

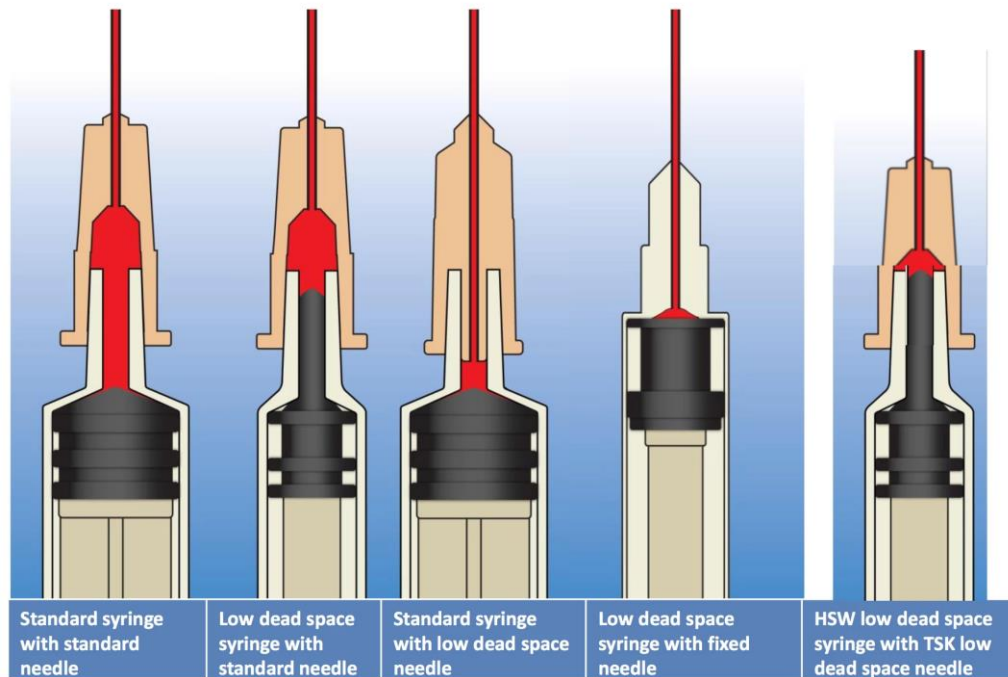
Q. If needles could be packaged like pipette tips, would this speed up the process?

A. Yes that may speed up the process slightly, but the needle would also need to address the dead space issue to prevent loss of material.

Q. Why are low dead space needles not suitable?

A. It is not always possible to get the desired needle gauges and it is slow to change needles. Below is an example of some low dead space needles/syringes available on the market, that don't quite meet the user needs:

Dead space comparison



Q. I have expertise in certain areas, but not in all areas that are required to solve the Challenge. How can I find other expertise?

A. Speak to the NC3Rs office (crackitenquiries@nc3rs.org.uk) and we will do our best to help connect you with the expertise you are seeking. You can also make use of the Challenge-specific LinkedIn pages that have been established.

Q. Who should we email with questions?

A. General questions can be sent to the NC3Rs. Questions regarding a specific Challenge can be sent to the Sponsors, but enquiries should be sent to ALL Sponsor parties for a particular Challenge. If preferred, please email the NC3Rs to introduce you to the Sponsors at crackitenquiries@nc3rs.org.uk