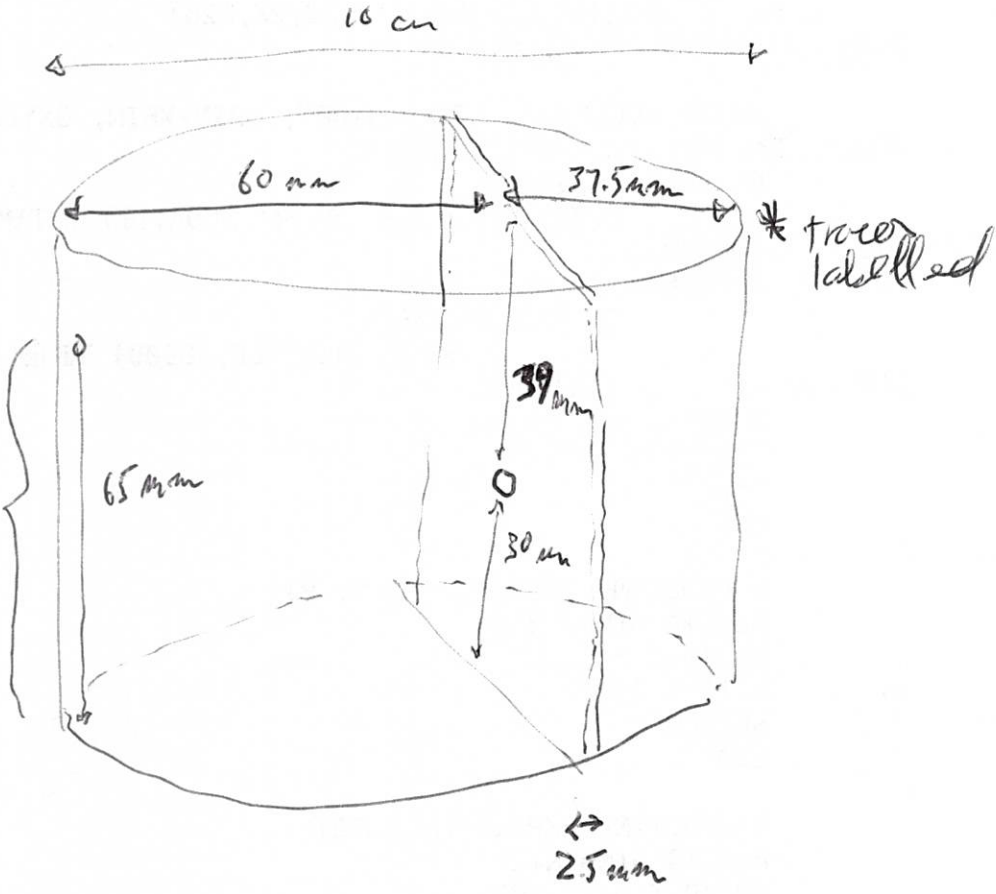
Phantom dims:



usable volume

~ 500 mL

~~~~ 278 mL

~ 286 + 214* mL

≃ 79 cm²

≃ 44 cm²

D* ≃ 33 cm²

$y = \pm\sqrt{1-x^2}$

$0 = 2x + 2y\frac{dy}{dx}$

per experiment: start with 500mL	total	unlabelled	labelled*
volume above needle	~~~269 mL~~~	154 mL	115 mL
time above needle	~~~54 min~~~	31 min	23 min
~~~~

[^{18}F] prep: receive ~20 mCi in ~0.1 mL

Twilite kieen to 12 [0,25MBq/mL]
[0,76 µCi/mL]

mix < 15 mCi in ~200 mL blood

use:

45% Hct blood in 500 mL, Draw cath.

2 min unlabelled
2 min labelled
:

] for 5 repetitions

2 min unlabelled
charge to Medex cath.

2 min unlabelled/
2 min labelled
:

] for 5 reps

~~2 min unlabelled~~

status:

45-70 Hct blood in 290 mL remaining

~ 166 + 124* mL

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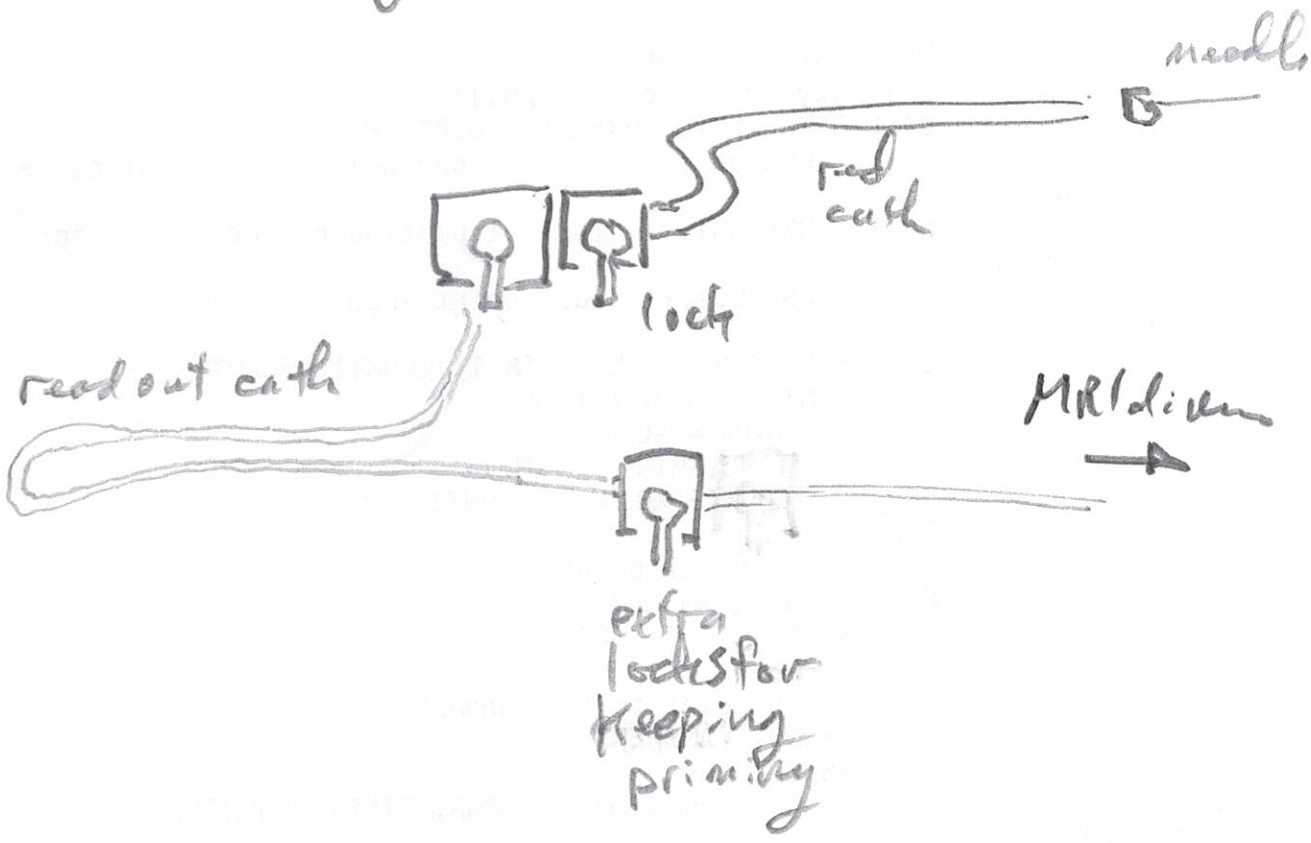
swap catheters
don't lose priming:



Pg 4.

use: 35% Hct blood in 500 mL ~ 286 + 214 mL

use: Modern Klein Braun

45% Hct in 290 mL.
add ___ mL 45% Hct
add ___ mL plasma
to get 35% Hct in 500 mL

$$0.45(290 + h) + p = 0.35(500)$$

$$(290 + V_{45})(0.45) = (290 + V_{45} + V_0)(0.35)$$

$$(0.35)(500) = (0.45)(290 + V_{45})$$

$$500 = 290 + V_{45} + V_0$$

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$$\frac{(0.45)(290)}{290 + V_0} = 0.35$$

$$\rightarrow \frac{(0.45)(290) - (0.35)(290)}{0.35} = V_0$$

$$\rightarrow V_0 = 82.9 \text{ mL}$$

$$\frac{(0.45)(290 + V_{45})}{290 + V_0 + V_{45}} = 0.35$$

&& $290 + V_0 + V_{45} = 500$

$$\rightarrow (0.45)(290 + V_{45}) = (0.35)(500)$$

$$\rightarrow V_{45} = 95.9 \text{ mL}$$

$$V_0 = 111 \text{ mL}$$