NHS Blood and Transplant

Should Cell Salvage be the Routine Standard of Care for All Primary Hip Replacements?

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Overview

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- Background-Me!
- Focus on costs to justify whether or not cell salvage should be the routine standard
- Brief comparison of transfusion rates in a number of hospitals
- Compare South Manchester with Royal Cornwall
- Detail on Royal Cornwall
- Thoughts for the future
- *Thanks to Sarah, John and Hannah for their input/support*

Data-Primary Hip Replacements 2010/11
Premier League

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Hospital	Ops	% Txn	Cell Salvage ?
Royal Cornwall (RCH)	225	7.1%	Y
South Manchester	158	10.8%	N
UK Private Hospital	92	18.0%	Y
Specialist Orthopaedic Centre	153	18.3%	N
Royal Gloucs	143	27.0%	N
US Teaching Hospital	2,070	27.4%	Y

Compare Top 2. RCH v South Manchester Primary Hip Replacements 2010/11

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- Both have assiduous Blood Conservation procedures. Assume patients are “optimally prepped”.
- Only key difference is RCH use cell salvage and South Manc does not.
- Study assumes no significant difference in blood management costs or readmission rates. Therefore match Cell Salvage costs against allogeneic blood costs.

Primary Hips RCH v South Manchester Key Stats

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	Av Age	SD Age	N	Male %	Av LOS	% Txn Rate
S Manc	67	11.8	158	43	8.3	10.8
RCH	68	11.3	225	39	5.8	7.1

- Similar patient profile.
- Av LOS significantly different.
- How much is LOS difference due to cell salvage?

Compare Direct Costs of Blood

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Hospital	Operations	Allogeneic Units Txd	Av Units/Op
Sth Manc	158	38	0.24
RCH	225	31	0.14

- "Saving" in blood cost =0.24 – 0.14 =0.1 x £122 =£12 per operation at RCH.
- Against price of cell salvage consumables (£40 for collect only to >£100 for Orthopat).

Accountant's View-Impact on Direct Costs

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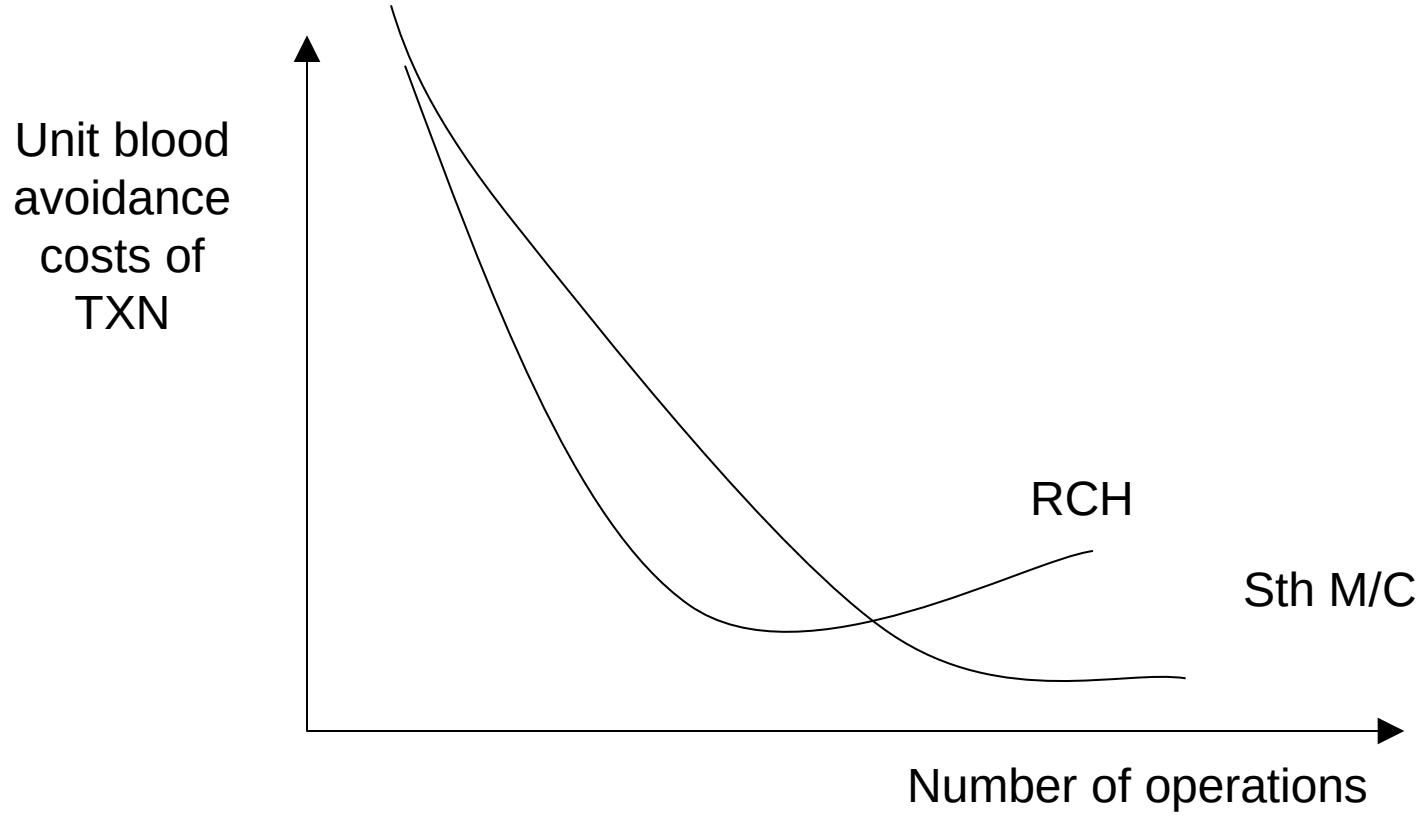

What About Indirect Costs/Benefits?

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- Length of Stay
  - South Manchester 8.3

    v
  - RCH 5.8
- Average I/P accommodation cost £220
- RCH avoid 2.5 days x £220 = £550 per op

Length of Stay Costs-Some Issues

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- Vast majority are fixed (rates, cap charges, staff in short term etc) but some variable (food, laundry etc).
- Available bed is only one limiting factor.
- Space on theatre lists? Are the patients there?
- Purchaser willing to pay for more activity?
- How much LOS is driven by having a txn?
- How much driven by discharge procedures?
- Use excel “=text(weekday(*cell ref*),”ddd”)”

  Cell ref is the date in e.g. cell “a1”

Focus on RCH
Analysis of 225 Primary Hip Repl Cases

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	With Txn and Reinf	With Txn no Reinf	No Txn with Reinf	No Txn no Reinf
Operations	***7***	***9***	***100***	***109***
Av Pre-op Hb	13.0	13.2	13.8	13.6
Av Lowest Post Op Hb	6.7	7.3	*10.4*	*10.4*
Av LOS (days)	12.6	9.7	*5.1*	*5.6*
Av Units Txd	1.7	2.1	-	-

Conclusion-Cell Salvage the Routine Standard?

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- Accountant would say “NO”. Evidence points to direct costs of cell salvage increasing markedly when other blood conservation measures are working efficiently.
- Indirect costs are more difficult to assess and will vary significantly between Hospitals.
- Can we explain the variations in LOS between hospitals?
- BUT-Reinfusions seem to pull down the LOS. Can the hospital make use of this capacity?