

## Colloids

- Thought to stay in circulation longer due to large molecules which are not filtered out of kidney or re-distributed into extravascular space, and also prevent the drop in osmotic pressure with saline replacement. 1:1 blood replacement vs 3:1 with crystalloids. Only effects vascular compartment
- Thought to exert oncotic pressure to reduce risk of pulmonary oedema (but no actual reduction found). Most important pressure is hydrostatic
- Thought to pass less into ECF in leaky capillaries, (but still does and then can exert oncotic pressure in ECF leading to ↑ oedema)

### Crystalloids vs Colloids

- Higher mortality using colloids in trauma<sup>1</sup>
  - Most (esp newer) systematic reviews find no benefit or deleterious effects of using colloids<sup>2</sup> (=4% increased mortality)
  - No difference between the effect of different colloids<sup>3</sup> except in cost
  - 1. Rizoli SB, 'Crystalloids and colloids in trauma resuscitation: a brief overview of the current debate' *Journal of Trauma-Injury & Critical Care*. 54(% Suppl):s82-8, 2003 May
  - 2. Schierhout G. Roberts I. 'Fluid resuscitation with colloid or crystalloid solutions in critically ill patients: a systematic review of randomised controlled trials' *BMJ* 1998;316:961-964 (March)
  - 3. Bunn F. Alderson P. Hawkins V. 'Colloid solutions for fluid resuscitation. [update of Cochrane Database Sys Rev. 2001; (2):CD001319; PMID: 11405985]
- Still used by anaesthetists a lot

### Prices of Resuscitation Fluids

Fluid	Price/L (a la BNF)
Gelafusin (gelatin)	£9.26
Haemaccel (gelatin)	WITHDRAWN (was £7.42)
Dextran 70	£9.12
EloHAES (hexastarch)	£25
HAE-steril (pentastarch)	6-10% £21-£33
Hemhes (pentastarch)	6-10% £25-£33
Voluven (tetrastarch)	£25
0.9% saline (Stepping Hill Stock price)	43p
Hartmanns (Stepping Hill Stock price)	48p

Also some stuff from; 'Emergency Medicine a comprehensive Study Guide',  
Judith Tintinalli, *et al.* 2000 published by McGraw-Hill