To transfuse or not?

- **Background**
  - 13 million units collected/yr
  - 11 million of which are transfused
  - >60% given to surgical patients
  - Transfusion reactions common
  - Transfusion related infection, uncommon but disastrous
  - Transfusion related immunomodulation possibly detrimental

Pre-FOCUS data

- 1942 paper recommends transfusion preop when hgb 8-10g/dL
- Accepted practice of 10/30 threshold
- Trials associate anemia and poor outcomes
- Effect of anemia dependent on comorbidities
**Pre-FOCUS data**

- CVD assoc with increase in anemic effect

**Pre-FOCUS data**

- TRICC Trial
- >800 pts in ICU randomized to transfusion at 7g/dL or 10g/dL
- No significant difference in 30-day mortality (though lower in restrictive group)
- Trend toward improvement in liberal group in patients with ischemic heart disease

**FOCUS trial**

- >2000 hip Fx pts, all with CVD or risk
- Randomized to transfusion at 8 or 10gm/dL
- Primary: inability to walk across room no difference between groups
- Cardiac events/death 4.3 v 5.2 (non-sign)
- Reduced overall usage of blood
AABB recommendations

• Restrictive 7-8g/dL in stable patients
• Consider transfusion if hgb<8 with CVD
• AMI - data unclear, no recommendation
• Symptoms factors into decisions

Risk of VTE - Historical

• ~50% for untreated ortho patients
• Based on screening studies
• Assumption: A5x DVT important outcome

VTE and Ortho update

• 2012 – ACCP publishes 9th edition
• New Data/New drugs (Dr. Williams)
• Reexamination of old data
Baseline Risk

- Symptomatic events relevant
- TKA/THA/Hip Fx virtually equal
- 35d risk ~4.3% untreated and 1.8% treated

9th edition ACCP recommendations

- All patients with major ortho surgery at equally high risk
- All patients without contraindications need pharmacologic prophylaxis for 10-14 days
- LMWH preferred – based on amount of data in the patients

To extend or not to...

- Competing outcomes: bleeding vs. clotting
- No patient at “low risk” with THA/HFS/TKA

To extend or not to...

- Competing outcomes: bleeding vs. clotting
- No patient at “low risk” with THA/HFS/TKA
9th Edition ACCP recommendations

- Recommend minimum 10-14d of LMWH, fondaparinux, LDUH, Warfarin, Aspirin (1B)
- Recommend extension of prophylaxis to 35 days (2B)

Nearly 3000 pts, 8 trials, mostly THA
- Compared 7-10d vs >21d prophylaxis
- OR 0.15 for PE, 0.36 sympt DVT
- ARR of 0.8% for PE, 1.5% for DVT
- OR 2.44 for increased minor bleeding