An usually Bright Child and

FMH Screening by Flow cytometry

Rob Lees NHSBT Sheffield RCI
Case Study

An unusually bright child
An unusually **bright** child

- Normal full term delivery
- Mum O RhD- (actually weak mf in D group)
- Baby O RhD+
- Reported by blood bank as “Elevated Kleihauer”
An unusually bright child

Histogram for a 1% (~20mL) control

Histogram of the patient sample

D- Control cells  D+ control cells

D- maternal cells  D+ fetal cells
An unusually bright child

34mL Bleed
An unusually bright child

CcDee 55 (R1r)

ccDee 146 (Ror)

Dad 1009

Infant 2170
FMH Screening by Flow cytometry
Why screen by flow cytometry?
Lean Working

The Lean Management System

**THE CONTINUOUS IMPROVEMENT CYCLE**

**Lean:**
- Define
- Measure
- Analyze
- Improve
- Control

**Agile:**
- Explore the problem
- Build the right things
- Build the thing right

**5S**
- Sort: Keep only necessary items in the workplace.
- Set in Order: Arrange items to promote efficient workflow.
- Shine: Clean the work area so it is neat and tidy.
- Standardize: Set standards for a consistently organized workplace.
- Sustain: Maintain and review standards.

5S is a five step organization technique to create and maintain an intuitive workspace.
Where do we start?

- Established technology
- Recently improved Service (2 colour)
- Staff experienced in Flow cytometry within the organisation
- Staff experienced in Process design and “Lean” and UoM (or MO, or MoU)
- Splice upload
- Reagents/ IBGRL

- No Documentation
- Un Validated process
- Unknown Customer base / demand
- Unknown costings (RCI or Hosp)
- Hematos System Update
- Sample logistics / turn around
All in the planning
Current state

- New protocols set up on Flow cytometer
- Hematos upgraded
- National documents written
- Service Level Agreement written
- Validation underway in all 4 sites
- Potential Pilot site identified
- Flyers already advertising the service!