

# Provision of O negative units – an operational challenge

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# Operational Challenges

- Daily supply v demand issues
- O neg substitutions
- Wastage of O neg units
- Supply of units with complex phenotype requirements

## Daily supply v demand

- 7 % of UK population is O D neg
- 12% of hospital demand is O D neg
  - Emergency O neg (Flying Squad)
  - IUT / Exchange / Neonatal / Paediatric
- 11 % of donor population is O D neg

# O neg substitutions

- Approximately 0.8% of red cell orders are substituted with O D neg units
- Ro supply shortfall
  - November demand for Ro (cDe) units = 3,944
  - November supply = 52% , shortfall for group O patients would be fulfilled using O D neg (cde) neg units

## Wastage of O neg units

- In November 167 units (0.13%) of O D neg expired at NHSBT
- 70% of these were Kell +
- Only 10% of UK population is Kell +
- Many hospitals in England request ALL their O D neg units as O CDE neg Kell neg

# Supply of units with complex phenotype requirements

Case study

Interactive session with A+ B cards

## Case study

- Female at 21 weeks gestation with multiple antibodies
- Anti D (rising titre) anti-C, anti-E, anti- Fya, anti-Jka
- Failure to source suitable unit resulting in 24 hour delay to IUT

# Why so difficult to source?

Thursday 11<sup>th</sup> August

Total number of units bled by NHSBT

5,228



# Manufacturing timelines

What % of units were bled from local sessions (12 hour rule)?

A = 30%

B = 60%

30%

1568

What % of units were O D neg ?

A = 10.5%

B = 11.5%

11.5%

180

What % of those units were not  
CDE K neg ?

A = 4%

B = 14%

14% = 25 units

155

What % of those units were from  
Male donors ?

A = 39%

B = 49%

49%

76

What % of those units were CMV  
neg ?

A = 38%

B = 48%

48%

36

# What % of those units were positive for other tests ?

(PANTS / SICKLE / HEV / Micro 2 yr rule)

A = 3%

B = 5%

3% = 2 units

34

What % of those units were Fya  
negative ?

A = 33%

B = 51%

33%

11

What % of those units were Jka  
negative ?

A = 18%

B = 24%

24%

3



# Supply issues

- On 3 occasions there were 0 suitable units located
- Can only start searching for potential units 5 days prior to scheduled IUT
- Small or no bleeds at weekend / BHs
- Can call in specific donors once aware

# CA/PA

## Corrective Actions

- Improved Communication
- Call in specific donors

## Preventative Actions

- Review process
- Staff awareness training

# Meeting the Challenges

- Good communication
- Training and awareness

Across the whole supply chain, within both NHSBT and Hospitals

Working together to ensure every precious O neg unit is used for its intended purpose  
– saving and improving lives