

North Glamorgan



Gogledd Morgannwg

# Diamed in practice – a personal view

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# WASPS Steering Committee

- Diamed technically easy to perform.
- Why then do we see variations in performance between and within different hospital laboratories ?
- Do subtle differences in technique matter ?
- What could these subtle differences be ?

# WASPS Steering Committee

- I offered the view that although cell suspensions could be significant, perhaps not the sole or even major factor in performance.
- This is based on the fact that for years, all suspensions at PCH have been made up by eye !
- Did offer some other suggestions.

## Size of batches

- Dispensing the cells first is different to what serologists will have been trained to do.
- If a large batch of tests are put up or if interrupted, cells can sediment in the reaction chamber before serum added.
- Potential for weaker reactions as fewer cells falling through an antibody rich mixture.
- We therefore limit the size of batches.

# Temperature of reagents / samples

- Most people use 15 minute incubation time.
- Are reagents / samples used straight from the fridge ?
- WASPS material used straight from the fridge?
- We allow samples to warm to room temperature before use.
- After dispensing cells, we place the cards at 37°C for a minute or so before adding serum.

# Incubation time

- Have been using Diamed at PCH since 1992.
- During our initial evaluation, we found we got better results by incubating for 20 minutes rather than 15, particularly with weaker antibodies.
- This has been our standard incubation time ever since.

# Incubation time

- Significant ?
- New users of Diamed Sampler II
- Diamed personnel amazed at strength of reactions of 3 weak anti-D standards on our system.
- They thought it highly significant we had requested a programme change from 15 to 20 minutes on our system.

# Mixing

- Debatable how successful, but staff instructed to gently “tap” cards on bench in an attempt to mix serum and cells before incubation.



## Our performance

- W01/03 – Jka v Jk(a+b-) cells. 40.8% failure to detect this incompatibility, majority being Diamed and Biovue users, including the Diamed confirmation lab. All 12 staff at PCH who did this exercise detected it.
- W10/03 – 0.05iu/ml anti-D v R1r cells. 70 missed incompatibilities by Diamed users. All 9 staff at PCH who did the exercise detected it.

# Our performance

- W10/04 – anti-E+K v R1R2 K- cells. 13 missed incompatibilities by Diamed users. All 11 PCH staff who did the exercise detected it.
- Since 2000, the total “errors” recorded in WASPS at PCH are as follows:-
  - W06/02 – 80 points for 4 >1+ by same person
  - W10/01 – 20 points for 1 >1+
  - W01/00 – 59% failure to detect anti-B v B cells (84% overall for Diamed users)

## Holy Grail ?

- Most definitely not !
- My staff no better or worse than yours.
- Not trained any better than yours.
- Based on our WASPS performance, must be doing something right.
- Could it be what some might consider our “quirky” use of the Diamed system ?

## Take home message

- Consider the effect of premature sedimentation of red cells, starting temperature of reagents / sample material, incubation time and mixing.
- If not convinced, if you have a bad exercise, try repeating using our practices.
- If it works, let us know !