

ROCHFORD REVIEW  
SPRING 2004

Royal Holloway College, September 2003

From our 2003 survey, you told us in some details areas of interest to you, and following this, we held a seminar in September 2003 where Barry Behr (Stanford USA), Sue Pickering (Guy's & St Thomas's Hospital, London) and Sue Avery (Birmingham Womens Hospital) were the principal speakers on developments in embryology.

Sue Pickering provided a detailed insight into the preimplantation genetic diagnosis programme run at Guy's Hospital and their experience during the last couple of year. Results from 233 PGD cycles were discussed. The overall pregnancy rate was 21% but high levels of twins and triplets were observed as the patients treated were fertile. Most cycles resulted in no choice of embryos for transfer. It was concluded that a multidisciplinary team was required to run the PGD service with a lot of input from the genetic and cytogenetic scientists and counsellors.

Barry Behr spoke about culture media experiences and embryo quality assessment at Stanford. The various factors involved during optimisation of a culture system were discussed. It was concluded that embryo viability assessments are multi-factorial and the whole culture system needed to be carefully considered. Barry went on to describe the method of embryo culture employed at Stanford using the Quinns Advantage sequential media from Sage. He then discussed the use of growth factors in sequential media. In Barry's opinion embryos prior to genome activation would probably develop normally in the absence of any growth factors, however blastocyst development would be enhanced with growth factors as blastocysts need to contain enough cells to implant and differentiate normally. This was backed up by evidence using mouse embryos. This prompted a discussion on which growth factors should be added to media, how much to add and how to measure their effect. In summary more research is needed in this area if we are to improve embryo culture and ultimately improve IVF success rates.

Finally Sue Avery spoke on laboratory quality systems, particularly with reference to the European Tissue Banking Directive which will include gametes and embryos within its regulations. Implementation of this directive will be in 2005. Within the directive it is felt that there will be mention of a quality system within the laboratory. Such a quality system

defines and documents a series of systematic processes to be followed. This inevitably would mean more paperwork for embryologists to begin with, but later the system should become routine.

More than 30 clinics were represented at this seminar and we are grateful to all the speakers who kindly gave their time to address this informal meeting.

### PAT QUINN'S QUESTIONS AND ANSWERS

(disclaimer: these are the personal opinions of Patrick Quinn and are published for information only)

#### QUESTION:

When freezing embryos the SAGE protocol calls for stage 1 - 10 minutes and stage 2 - 5 minutes. 5 minutes is often not long enough to load the straws when freezing more than one patient's embryos. Is this 5 minutes critical?

#### ANSWER:

There would be no problem holding the embryos for longer than 5 minutes in the 1.5M PPD/0.1 M sucrose. Anything up to 15 minutes would be fine. In fact Porcu et al have now reported using 0.3 M sucrose to good effect so leaving the embryos in the presence of 0.1 M sucrose + 1.5 M PPD for longer helps to compensate for the lower sucrose concentration in our kits.

#### QUESTION:

Your protocol calls for processing embryos at 37 degrees C in the PPD solution. Isn't PPD toxic to embryos at this temperature?

#### ANSWER:

Concerning the temperature of equilibration of the cryoprotectants, it doesn't really matter whether you do it at 37 degrees C or ambient temperature (22 C). There has been no published data in humans or any other mammals that shows that there is a significant difference between the two temperatures. So if you are more comfortable doing it at the lower temperature, then you can. There seems to be a relationship between temperature and time, e.g. the higher the temperature, the quicker the perfusion, so you have to be a little more precise with keeping to exact timing.

QUESTION:

What CO2 levels/pH do you recommend with SAGE sequential media?

ANSWER:

pH for Cleavage Medium should be ~ 7.2 under 5% CO2.

If you have a question for Pat Quinn, please send it to the Rochford Medical office, who will be pleased to forward it on your behalf.

ACE FIVE A SIDE FOOTBALL TOURNAMENT  
LIVERPOOL 2004

Report by Chris Eyre

The ACE football tournament has now become an integral part of the annual January conference and this year everyone was heading for the soccer-mad city of Liverpool.

When I called last year's winning captain, Steve Harbottle, to confirm that the kick-off was scheduled for 2 p.m. he said: "Oh no! There is an ACE executive meeting planned for the Sunday afternoon." Happily, common sense prevailed and the executive meeting was rearranged for the Monday morning! Thanks for recognising the priorities Steve.

Incidentally Steve had become so attached to the 'Rochford Cup' that he was determined to hang on to it for another year so he hatched a cunning plan to help him repeat last year's success. First he put together a strong-looking side made up of members of the ACE Executive Committee and then he insisted on an old friend of his being the tournament referee!

Shaun had arranged for the players (and the supporters) to be taken by coach from the Crowne Plaza Hotel to the venue. This caused some of us to imagine we were on our way to Anfield to be met by hundreds of autograph hunters. Reality soon returned, however, as we arrived at the Bootle Football and Tennis Centre.

Then it was down to business as we sorted out the teams. As in previous years we had enough players for 4 teams and so were able to use the familiar 'knock-out' format. I should make a special mention here of Richard Fawthrop who brought down what he thought was a strong squad from Leeds only to find it rather depleted as we had to 'borrow' some of his players to even-up the numbers. Thanks Richard!

This year all 4 teams had their shirts sponsored, so a big thank you to all the sponsors: Ferring Pharmaceuticals, MediCult, Research Instruments and Rochford Medical. Rochford 'Aces' wore their traditional dark green shirts while Research Instruments wore their customary navy blue. The Leeds Layabouts, sponsored by MediCult, were all in white like their premiership heroes Leeds United. Finally the ACE Exec team, sponsored by Ferring, were kitted out in (tasteful?) beige polo shirts. It seems that Ferring's Murray Stephenson took it to heart after comments about the bright yellow shirts he provided last year.

The draw for the semi finals provided a repeat of last year with Research Instruments playing Rochford 'Aces' while the Leeds Layabouts took on the might of the ACE Exec team.

Results:	Ace Exec	9	Leeds Layabouts	4
	Rochford 'Aces'	5	Research Instruments	1

Charles Kingsland, local gynaecologist and member of the conference organising committee, took a break from his conference duties to make a guest appearance for Rochford 'Aces' and starred in their 5-1 win over Research Instruments. In the other semi-final the Ace Exec team had a comfortable 9-4 victory over Leeds Layabouts. Plucky Mary Herbert, making her football debut in the ACE Exec team, lived to tell the tale after being flattened by 16 1/2 stone Richard 'the tank' Fawthrop. Hope to see you back next year Mary!

Next came the third place play-off between Leeds Layabouts and Research Instruments and in a closely fought match the Layabouts came out 5-4 winners.

Rochford 'Aces' preparations for the final were disrupted as Jo Titterington had to withdraw through injury after an impressive display in the semi-final and Charles Kingsland was summoned back to the Crowne Plaza Hotel to resume his conference duties. Sportingly the ACE Exec team agreed to the 'Aces' borrowing Ged Hawe from Research Instruments on condition that he played in goal.

Adversity seemed to inspire the 'Aces' and they raced into a 4-0 lead with goals from Shaun Rogers, Yannis Sfontouris and Chris Eyre (2) before Steve Harbottle pulled one back for the ACE Exec. However, the force was with the 'Aces' and nothing could stop them as they ran out easy winners by 10-2.

Final score:

Rochford 'Aces'	10	ACE Exec	2
Chris Eyre (4)		Steve Harbottle (2)	
Yannis Sfontouris (4)			
Shaun Rogers (2)			

Teams:

Rochford 'Aces': Chris Eyre, Emma Dunkley, Ged Hawe, Shaun Rogers,

Yannis Sfontouris

ACE Exec: Steve Harbottle, Mary Herbert, Annette Lloyd, Dave Morroll,

Matt Tomlinson, Bryan Woodward

Shaun Rogers was duly presented with the 'Rochford Cup' by ACE Chair Sue Avery at the conference dinner and I understand that it will be prominently displayed in the new Bart's IVF unit due to open in March/April.

Once again thanks to all the participants, the sponsors and to Jules the referee who, despite initial concerns, was absolutely impartial!

Hope to see you back for more next January in Birmingham.

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As reported in our last issue, Jo Johnson of Queen's Hospital Burton was the lucky winner of a Stripper Micropipette . This was the prize draw from all those embryologists who completed the Rochford survey. Jo is pictured below receiving the Stripper!

#### EVENTS DIARY

WCHR	10-13 MARCH 2004	VENICE
IFFS	23-28 MAY 2004	MONTREAL
BFS	31 MARCH - 2 APRIL 2004	CHELTENHAM
ESHRE	27 JUNE - 30 JUNE 2004	BERLIN
ASRM	16 - 21 OCTOBER 2004	PHILADELPHIA