The Embryologist

ACE
The Association of Clinical Embryologists

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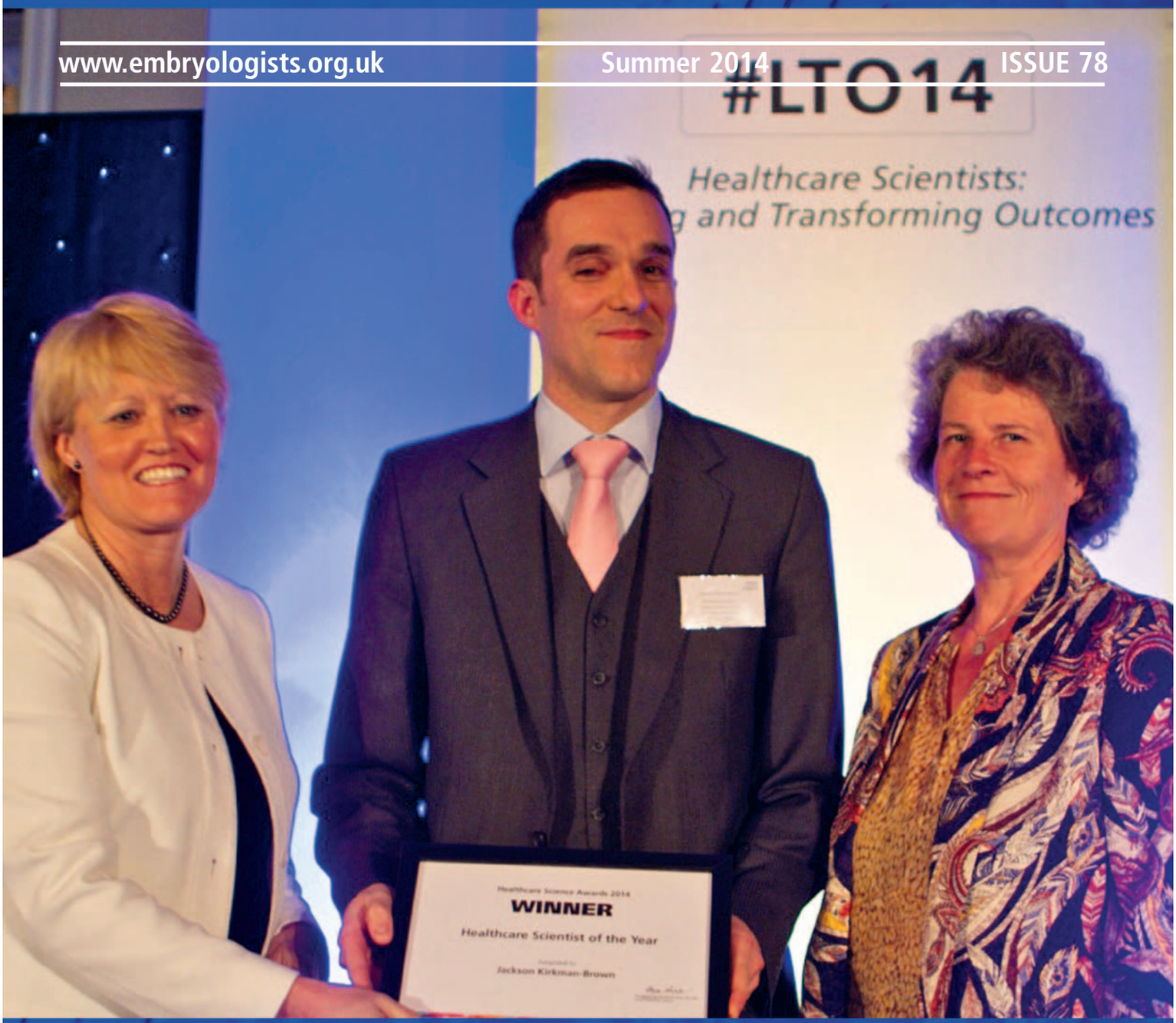


JACKSON KIRKMAN-BROWN
HEALTHCARE SCIENTIST OF THE YEAR

IN THIS ISSUE

EDITORIAL

As the temperature slowly creeps up, it can only mean one thing. Summer is here! So grab yourself a cup of tea and settle down with the latest jam packed edition of 'The Embryologist'.

Firstly, a huge congratulations to Jackson Kirkman-Brown who was awarded Healthcare Scientist of the year 2014. Jackson is an exceptionally worthy winner for his work with helping our armed servicemen who have been injured in action to achieve a family. Read more about Jackson's work later in this issue.

You will find all the latest updates in the world of embryology in this issue, including an insight into NEQAS for embryos.

And finally, as World Cup fever grips the world, Bryan has combined his love of embryology and football to mastermind an aptly themed Brainteaser. Why not challenge yourself?

Hope you enjoy it.

Sue

Front cover photo shows Jackson Kirkman-Brown with Celia Ingham-clark and Professor Sue Hill OBE

Congratulations to the following embryologists on the award of the ACE Certificate

Ingrida Krasauskaite	- Birmingham Women's Fertility Centre
Malwina Paul	- Assisted Conception Unit, King's College Hospital London
Emma Woodland	- Salisbury Fertility Centre, Salisbury NHS Foundation Trust
Susannah Sargeant	- Centre for Reproductive and Genetic Health, London
Eleanor Taylor	- The Hewitt Fertility Centre, Liverpool Women's Hospital
Jemma Currington	- Bourn Hall Clinic, Cambridge
Laura Pastorelli	- Edinburgh Fertility & Reproductive Endocrine Centre, Royal Infirmary of Edinburgh
Ashley Hyde	- Assisted Conception Services Unit, Glasgow Nuffield Hospital

LETTER FROM THE CHAIR!

Well it's fair to say it has not been a slow start to 2014 for ACE and I hope this is a sign of things to come. Nicky Monks has been working like a Trojan leading the Practitioner Training Programme team and we now have a syllabus which is in a workable form and should soon be approved for implementation. This will for the first time allow a route for practitioner level staff to receive formal training and will underpin the existing STP scheme seamlessly. Many thanks to Nicky, Victoria, Jane and everyone else who have been working in the background to push this project through under very tight time pressure.

You may remember that at the AGM in Sheffield I mentioned that ACE were planning to establish a Scientific Advisory Committee (SAC) to work with the Executive Committee on matters where the input of key academics in our field would be beneficial. I am delighted to say that we have now established the SAC with 4 initial members. It is my pleasure to welcome Daniel Brison, Mary Herbert, Roger Sturmey and Dagan Wells to the committee and to thank them for their support and enthusiasm towards establishing the SAC; this can only be for the benefit of ACE and all of our members moving forwards.

This summer also sees the roll out of the ACE CPD smart phone app which we have developed in conjunction with Premier IT to allow a more life-friendly mechanism for CPD subscribing members to keep up to date with recording of CPD on the go and from portable devices. The app will be available to all CPD subscribing members at no additional cost.

Finally, yet very importantly, you may be aware that a group called 'One of Us' have been lobbying the European Parliament this Spring with the intention of halting investment in human embryo research and development. ACE was among 60 other UK and EU organisations who signed a joint statement co-ordinated by the Wellcome Trust resisting this motion and supporting the benefits of human embryo and stem cell research. This intervention was gratefully received by many MEPs, several of whom have disseminated it on Twitter and engaged with us. We also received positive feedback from the Commission on the statement.

I hope you enjoy this edition of The Embryologist and have a wonderful summer!

Stephen Harbottle

WEBMASTER CORNER

Don't forget to log in from time to time to the website. If you need to renew you will be asked to do so, but much more than that you can make use of countless features. From the "My ACE" page you can access the calendar and see what events are coming up. You can engage in polls: did you know that the majority of your peers hold their breath when handling embryos? You can also access the forum for ideas, questions and general chat. And don't forget download central for that document you were looking for. We are very proud of our discounted access to Human Fertility. Why not tag this on to your membership the next time you renew at a measly £25? Watch this space too for news of the new CPD app as it get released.

Helen Priddle

MESSAGE FROM THE CHAIR OF THE TRAINING COMMITTEE

The ACE Certificate continues to thrive as the candidates complete their training and occasional new candidates are welcomed from Scotland, Northern Ireland and Ireland. Currently we have 80 registered Trainees and 152 registered Supervisors. Three trainees and eleven supervisors are not currently up-to-date with their ACE membership. Please remember that all trainees, supervisors and trainers for the Certificate need to be active members of ACE. It is very difficult for the ACE Assessors to keep track of this. The Training Committee recently circulated a new document to Trainees and Supervisors, to be completed and sent with your final submission of ACE Certificate work, and copied to the ACE Office. In this way, your Assessor will have a complete record of the delivery of your Certificate. You will be able to compile the information from your 3-monthly reports, which are especially important if you have had changes during your training. If you are missing any of these documents, check out the ACE Certificate page on the website.

Message to ACE Certificate Supervisors: ACE has arranged two dates for ACE Certificate Supervisors, on 18th June in Birmingham and 24th October in London. Please make sure you attend these training days well in advance of your own expiry. The next date in 2015 is likely to be in Scotland. If you do not have an in-date supervisor in your unit, your trainee will not be able to continue with training until new arrangements are in place. We have to ensure that the Certificate is delivered in a robust way if it is to be taken as evidence towards future registration.

Update on the Scientist Training Programme (STP): the first trainees are now starting their job hunting for those who are not able to stay in their host unit on completion of their 3-year fixed term contract. (For those people who have not yet grasped this fact, hosting a STP trainee is ENTIRELY funded by the NHS, whether the training is delivered in a NHS or private unit). A huge thanks to Jason Kasraie and his tireless team who have written and tested the stations for the Observed Structured Final Assessment, or OSFA. STP mock examinations recently took place at the General Medical Council in Manchester, which provided a challenging and effective test of the pre-registrant's abilities. A side benefit may be that people from other professions will get to see the complex tasks that embryologists perform on a daily basis, and the considerable skills and empathy we bring to our interactions with patients.

The proposed training pathway for Practitioners is developing rapidly. There are two programmes:

PROGRAMME ONE: Accredited Additional Scientific Practice in Reproductive Science: Quality, Culture Systems and Gametes for Reproductive Science Practitioners. This programme encompasses tasks for Regulation, Quality and Safety, setting up and monitoring culture systems, assessing, procuring and processing sperm and oocytes.

PROGRAMME TWO: Accredited Additional Scientific Practice in Reproductive Science: Embryo Culture and Cryopreservation for Reproductive Science Practitioners. This programme includes removal of cumulus cells before ICSI, fertilisation check, embryo assessment and monitoring and cryopreservation of gametes and embryos.

The schemes contain workplace learning guides and academic elements taught by a University provider at BSc level. The programmes will equip graduate entrants into the workforce with the skills and knowledge to deliver a range of protocol-controlled procedures and to take responsibility for a number of key monitoring and safety roles in the laboratory. Practitioners will not make any decisions that would affect patient care but will work alongside the Clinical Scientists. The training consultation has involved the Infertility Network UK, the HFEA and our colleagues in ABA (to name the most important). Many thanks to the keen band of ACE "documenteers" who have made this happen.

The proposed training pathways for Associates and Assistants have also been clarified. There will be a modular curriculum for which ACE is providing the specialist modules relating to Reproductive Sciences. Training will be through apprenticeships or CPD programmes that are mapped to occupational standards. The Government is revising the specification and delivery of Apprenticeships and future funding will go directly to the employer, providing another new way to obtain external funding to support training posts. People will be trained to be fully competent in a job role rather than focussed on achieving a qualification. The new

Healthcare Science Apprenticeship standards will be available for delivery from April 2015. The documents for Reproductive Science are in nearly-final form and the ACE team would welcome interested individuals to help finalise and deliver these documents. Again, participation is by email if you would like to be involved please contact me at nmonks@ymail.com.

Nicky Monks

HOW TO APPLY TO HOST A SCIENTIST TRAINING PROGRAMME (STP) TRAINEE

Read about the scheme in the many descriptions available on line – just type "Scientist Training Programme" into your favourite search engine.

Decide whether you would like to host one of the national posts (in which case all the salary and training costs are met), or whether you have a person in your laboratory who would be suitable to be enrolled on the STP on the in-service training route. Existing employees need to be part of your workforce with a permanent contract and need a Upper Second Class Honours degree (or higher) to be considered.

Identify a Training Lead in your department.

If you are in a NHS hospital, approach your Trust Lead Scientist and your Education Centre, and local health community lead and/or other departments that have been in STP, get agreement from Trust, team, rotational laboratories etc, make contact with your Local Education and Training Board (LETB). Check that your request is included in your Trust's workforce plan.

If you are in a private hospital, make contact with your Local Education and Training Board (LETB) and explain that you understand that you are able to host a training post in your department. Work together with your Hospital management and the LETB to find out how you can provide the training (in the same way as you would provide any other service to the NHS).

Summer 2014	Initial expression of interest to LETB
Sept 2014	Submit workforce plan to LETB
Dec 2014	Approval or rejection of request by LETB
Jan 2015	National adverts go live on website
	Enquiries; informal visits; Open Days; Facebook
March 2015	National shortlisting
April 2015	National interview - assessment
June 2015	Confirmation of appointment
September 2015	Candidate starts program rotational placements, University Masters course
September 2016	Candidate based in host department
September 2018	Candidate completes program – Clinical Scientist

SIMPLES!

YOUR ASSOCIATION NEEDS YOU!

Looking for a new challenge? Want to contribute to your profession? Encourage those starting out in the profession? Expand your CV and experience? Could you be an ACE assessor?

ACE in conjunction with the Association of Clinical Scientists is looking to recruit assessors for examination of portfolios and undertake vivas for award of the certificate of attainment leading to HCPC registration.
There is an acute need to increase the current pool of assessors, ACE currently has 8 assessors but with personal commitments and the number of applications for HCPC registration rising there is a serious need for additional assessors. Currently the shortage of assessors means that pre-registrants submitting their portfolios are having to wait up to 6 months for an assessment date, clearly this is not acceptable so we need to encourage our colleagues to take part in this programme.

Being an assessor is very rewarding, it is a real pleasure to interview and get the best from candidates whose ambition and passion is to become an embryologist. It's a great opportunity to identify the rising stars of the future, to learn from others and test your own knowledge.

You receive the candidate's portfolios in advance and after reading through them you make a recommendation to ACS as to whether the candidate should progress to the viva stage, then along with another experienced ACE assessor you will interview the candidate for 45-60 minutes. I know some candidates find this a really scary experience, just think how your contribution could help ease these fears; it's not meant to be a traumatic experience for anyone, just an opportunity for candidates to show their knowledge and competencies. Are you the sort of person who can put a very nervous candidate at ease and get the best from them?

You will undergo training; including observing vivas and you will receive travel expenses. The vivas are held at the Association of Clinical Biochemistry offices in Tooley Street London. The number of candidates allocated to each assessor per assessment round is 3-4.

This really is a great way to contribute to your profession and shape the embryologists of the future.

In order to be eligible to be an assessor you need to be a current member of the your professional body and must be HCPC registered as a Clinical Scientist for at least six years. They would normally be considered working to the equivalent of 'Consultant' level, at AfC band 8b or above (or equivalent), and preferably be actively involved in the training of current pre-registration clinical scientists.

The Nomination form can be downloaded from the following weblink
www.embryologists.org.uk/Education/acs_assessor_nomination

- Nomination form is completed and signed by the potential assessor, and countersigned by a member of the Executive Committee of ACE.
- Form then sent to ACS admin complete with a brief CV of the proposed assessor.
- ACS admin forward documentation to ACS Executive who take a decision based on the appropriate criteria and relevant ACS Director's advice.
- If approved, the proposed assessor is sent assessor log in details to ACS website, instruction manuals, details of upcoming assessment rounds and assessors' update sessions.
- Proposed assessor should observe at least one set of assessments conducted by experienced assessors as part of their training. The experienced assessors should take the time to explain the process to the proposed assessor and the administrative staff would normally be available to help with any further enquiries if required.
- The individual is then considered a full ACS assessor but (where possible) they would be partnered with an experienced co-assessor for at least their first round.

MESSAGE FROM THE ACADEMY OF HEALTHCARE SCIENCE

The Academy for Healthcare Science is the single overarching body for the whole Healthcare Science profession.

As part of our work, we are pulling together a briefing for policy-makers and opinion-formers about the key issues facing the profession at the moment.

This survey asks you for information about the three biggest issues facing healthcare science at the moment (you can give us fewer issues if you wish). We will pull this information together into an anonymised report, which we will use to inform our influencing activity.

We want the survey to be as quick and easy as possible, and are looking for no more than 200 words for each issue. We will ask you for your email at the end of this survey so we can come back to you if we need any clarification with any of your issues.

Thank you for your assistance in helping to shape the future of Healthcare Science and to ensure the voice of the profession is heard at the highest level.

Update on Professional Indemnity (taken from HCPC website) **www.hcpc-uk.org/mediaandevents/news/index.asp?id=619&utm_source=VoxApr14**

Professional indemnity, an update

HCPC on professional indemnity

We have previously updated on the progress of government plans to introduce legislation which will require registrants to have appropriate professional indemnity arrangements in place as a condition of their registration with the HCPC.

We were anticipating this legislation to be in place at the end of October 2013. However, this has not been the case and we understand this will not now happen until at least July 2014. Once in place, and when the relevant changes to the HCPC rules have been made, we will start asking registrants to confirm that they meet the requirement by making a declaration each time they renew their registration.

We will also publish full guidance on the requirements, based on feedback from our consultation on the draft guidance available at **www.hcpc-uk.org/aboutus/consultations/ closed/index.asp?id=158**

The requirement to have a professional indemnity arrangement in place will not mean that all registrants need to take out individual professional indemnity insurance to meet the requirements. The majority of registrants are likely to already meet this requirement and will not need to take any action. This is because they are covered by their employers' arrangements or they have already made their own arrangements – for example, through a professional body, defence organisation, union or insurer.

Further information about how this requirement may affect you, along with some 'Frequently Asked Questions', is available at **www.hcpc-uk.org/registrants/indemnity**

We will continue to provide updates on our website and in future editions of HCPC In Focus.

UK NEQAS EMBRYOLOGY SCHEME EXPLAINED

PLUS THE INTRODUCTION OF NEW 'HUB' AND 'SPOKE' REPORTS TO AID INTERNAL QUALITY CONTROL FOR EMBRYO MORPHOLOGY ASSESSMENT

Dr Diane Critchlow, Deputy Organiser, UK NEQAS Reproductive Science Schemes

History of the Embryo Morphology Assessment Scheme

The Embryology Scheme together with the Andrology Scheme forms the United Kingdom National External Quality Assessment Service (UK NEQAS) for Reproductive Science. External Quality Assessment (EQA) allows comparison of performance with other laboratories and ensures clinicians and patients have confidence in your service. Additionally, it provides evidence of continuing quality as required by various accrediting bodies. The primary aim of all UK NEQAS Schemes however is education, and to help ensure results are comparable wherever they are produced.
Initially launched in 1993, the UK NEQAS Andrology Scheme is now well established with 294 participants (215 UK; 79 overseas). The Embryology scheme launched in 2011 has 72 participants (53 UK; 19 overseas). Our aim is to encourage all HFEA licensed IVF units in the UK to participate in the Embryology scheme. Generation of a larger data set from UK and overseas units will mean more meaningful and useful EQA results will be for embryologists and the clinical service they provide.

There were several driving forces behind the establishment of an embryo morphology EQA scheme:

- No standardised embryo grading system existed in the UK or overseas
- Morphological parameters were often 'combined' in embryo grading systems
- Grading was subjective and variable between operators and laboratories
- The HFEA 'Multiple Birth Minimisation Strategy'
- A unified embryo grading scheme was developed by Critchlow and Morroll for the Novocellus/Origio amino acid turnover study in 2007 (unpublished)
- ACE identified a need for a UK embryo grading scheme leading to the ACE/BFS National grading scheme (Cutting et al, 2008)
- The Alpha/ESHRE published a consensus paper with similar grading parameters to ACE /BFS scheme (2011)

The current Embryology Scheme was developed from an ACE pilot study in 2006 which utilised still images of early cleavage embryos. In 2009, a further pilot study utilizing 'rolling' embryo video clips of early cleavage and blastocyst stage embryos developed into the present UK NEQAS scheme, and now also uses timelapse images. It is a requirement of scheme participation that the ACE/BFS National Grading Scheme is used **(see www.cmft.nhs.uk/ukneqasrepsci.aspx)** and may be the reason that some labs choose not to participate, particularly where a different grading system is used for clinical practice.

The grading scheme has been endorsed by NICE and is now included in their new guidelines for Fertility (February 2013). The Scheme also allows for assessment of 'whole embryo quality' e.g. by asking participants to rank graded embryos from best to worst, indicating the choice of embryo(s) for transfer in a clinical setting. The 'quality assessment' results are not currently used to monitor performance, but help participating laboratories to compare how they assess embryo quality in relation to other laboratories and which grades are used in their unit to categorize embryos as 'top' quality, 'good', 'poor' quality etc. This is often used to indicate suitability of embryos for cryostorage or selection of patient cycles for extended culture/day of embryo transfer etc. and performance is not formally monitored by the Scheme as criteria differ between IVF units.

Most feedback from participants about the current scheme arises from the following two issues:

1. How does the Scheme derive target values?
Target values are crucial to scheme design and usefulness and are the basis for accurate performance scores. For quantitative schemes including semen analysis, an All Laboratory Trimmed Mean (ALTM) is used for motility and a

Method Related Trimmed Mean (MRTM) is used for sperm concentration (see participants handbook). There are currently no 'gold standard' methods to determine 'correct' or target values for embryo morphology assessment. It was decided in April 2011 that target values for embryo grading parameters e.g. cell number, cell size/evenness, percentage cell fragmentation, blastocyst expansion etc. would be derived from all laboratory results to give 'consensus' values. A consensus result is provided if more than 50% of laboratories agree. If fewer than 50% agree, then no target value is given. Therefore, a consensus result is not a 'correct' or 'gold standard' result, and only reflects how a majority of participating laboratories are interpreting the National Grading Scheme.

Quantitative morphometric measurement of blastomeres for cleavage stage embryos to determine evenness and cell count has been considered by the Embryology Steering Committee (ESC), but is more difficult for blastocyst stage embryos. As more participants join the Scheme, the data will become more robust.

2. Interpretation of the National Grading Scheme

Participants have reported problems with interpretation of the grading scheme particularly when embryos have cleaved asynchronously e.g. 3, 5, 7 cell stages. This is because a 'typical' or 'normal' asynchronous embryo should have uneven sized cells but would therefore be assigned a lower grade (e.g. 3/2/4), than an 'atypical' asynchronous cleaving embryo with even sized cells giving a higher grade (e.g. 3/4/4; Figure 1). Some participants have been 'adjusting' the grading system to give the 'atypical' embryo a lower score and the typical uneven embryo a lower score. However, after discussion with the ESC, it was decided that participants should grade as seen, as this is the only way to ensure all participants interpret the scheme in the same way. Embryo 'quality' is then reflected by assessment of the whole embryo i.e. that the typical embryo is 'good' quality and the atypical embryo is 'poor' quality, despite the latter having a higher numerical score. This also allows a 'slow' or 'fast' embryo on the designated day of development to be scored as poor quality despite having a high numerical score.

A review of current grading system by ACE may be considered, particularly in the light of assessing asynchronous cleavage to indicate typical/atypical embryos.

THE NEW 'HUB AND SPOKE' REPORTS TO AID INTERNAL QUALITY CONTROL (IQC)

The Embryology Scheme currently offers a two part results report for monitoring performance:

The first is for **External Quality Assessment (EQA)** with a report accessed via the UK NEQAS website with your UK NEQAS lab number and password. **(https://results.ukneqas.org.uk)**. Only one set of results is assigned/submitted per lab when assessing the embryo clips via the Gamete Expert website. **This report compares embryo grading between labs using consensus results.**

The second report shows **embryologist ranking from individual licence results** from a report accessed via the Gamete Expert website **(gamete-expert.com). This report compares embryo grading between all embryologists submitting results** (therefore a larger data set is used compared to the UK NEQAS data, but the consensus could be skewed if a large number of individual licences is held by some participating units). This is why the Gamete Expert target values can be **different** to the UK NEQAS target values as additional data is used. The graphs show whether individual results are in the top 25%, middle 50% or lower 25% of participating embryologists.

From June 2014, we aim to provide a further third part to our reporting system to promote and aid with **Internal Quality Control (IQC)** within units using a new **UK NEQAS Hub and Spoke Report**. The reports are available when individual licences for embryologists within a unit are purchased with the basic licence. Each participating laboratory will be a 'Hub' and the individuals within each unit holding individual/personal licences will be the 'Spokes'. The Hub report (Figure 2) has the following benefits: ·

- Less work for laboratory managers - no need to produce data spread sheets for IQC embryo grading comparisons!
- A clear record of all individual licence holders' results
- Standardisation of embryo grading and quality categories within units:

Fom the data, it is possible to check if embryologists are selecting the same embryo(s) for transfer/the same patient cycles for extended culture, and selecting the same embryos for cryostorage according to your unit policy.

The Hub report can be accessed by the lab manager via the UK NEQAS website with the lab number and password. Spokes are identified by codes. Anonymised dissemination of the report to spokes will be at the discretion of lab managers/supervisors, but should provide a useful tool for discussion at lab meetings.

The 'Spoke' report will also be rolled out in 2014/15. Each individual licence holder will receive a report for their own results submitted via Gamete Expert for each distribution, which they can compare with the online archive of embryo images. The report will be in the same format as the UK NEQAS EQA report (from Birmingham Quality*) showing individual running performance graphs and penalty plots, but will also allow comparison of personal results with their hub and with the overall UK NEQAS consensus values.

Future development

Finally, with increasing use of time lapse imaging (TLI) for morphometric assessment of embryos in combination with classical morphology, the future development of the scheme depends on the participation and feedback from as many IVF units as possible. Clinical relevance is of the utmost importance to the Scheme, as all IVF units seek to identify embryos with the highest implantation potential. The Scheme already includes TLI, and as the primary aim of all UK NEQAS schemes is educational, we aim to develop and introduce clinical scenarios which will be relevant to units using TLI in addition to those who do not. Therefore we welcome suggestions from existing and prospective participants, particularly in relation to new embryo assessment parameters.

FIGURE 1

'Typical' 3/2/4 grade embryo

'Atypical' 3/4/4 grade embryo

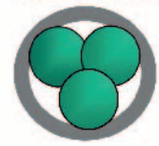
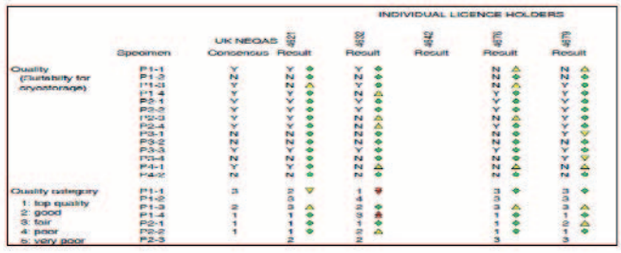


FIGURE 2



References

Alpha Scientists in Reproductive Medicine and ESHRE Special Interest Group of Embryology (2011) The Istanbul consensus workshop on embryo assessment: proceedings of an expert meeting. Hum Reprod.;26(6):1270-83

Cutting et al (2008) Elective Single Embryo Transfer: Guidelines for Practice British Fertility Society and Association of Clinical Embryologists. Human Fertility; 11(3): 131–146.

*Ed's note:

Birmingham Quality (previously known as the Wolfson EQA Laboratory) is the main UK NEQAS centre for clinical chemistry. The UK NEQAS service began at Birmingham in 1969 and now comprises a network of 390 schemes operating from 26 centres based at major hospitals, research institutions and universities throughout the UK. The Reproductive Science UKNEQAS is now operated from Manchester, although the UK NEQAS centre at Birmingham continues to control the encrypted protected area for web-based reports.

2014 HEALTHCARE SCIENCE AWARDS

Jane Blower
Leicester Fertility Centre

On the 31st March 2014 as part of the #LTO14 Healthcare Scientists leading and transforming outcomes event, Professor Sue Hill OBE Chief Scientific Officer, hosted the HCS award ceremony to celebrate Healthcare Science achievements over the past year. The event was held at the Grand Connaught Rooms in London, compered by Vivienne Parry OBE, science writer and broadcaster, and the occasion was attended by 250 guests. Reproductive Scientists were well-represented among the finalists, in fact seven of the twenty eight finalists in the six categories were reproductive scientists.

ACE would like to congratulate our members and those in allied professions who were nominated for an award, well done to all those individuals recognised for their outstanding achievements and contribution to Healthcare Science as category finalists in the 2014 awards ceremony.

The categories and finalists were:

Healthcare Scientist of the Year
- Nick Dudley, Lincoln County Hospital
- Jackson Kirkman-Brown MBE, Birmingham Women's Fertility Centre

Workforce Innovation
- Nicola Monks, Salisbury NHS FT
- Leicester Fertility Centre, University Hospitals of Leicester NHS Trust
- Terry Coaker, Royal Victoria Infirmary
- Teresa Robinson, Bristol Royal Infirmary
- Christine White, Salisbury NHS FT
- Jo Young, King's College Hospital, London

Ambassador of the Year
- Gary Dakin, Health Education North West London
- Gina Rogers, Whiston Hospital
- Melanie Watson, University Hospitals Bristol NHSFT

Rising Star
- Megan Duffy, King's College Hospital NHS Foundation Trust
- Tiffany Daniels, Central Manchester University Hospitals
- Maja Lesniewsk, Birmingham Womens Hospital
- James Pearson, University Hospital of South Manchester
- Samantha Thorn, University Hospital South Manchester

Patient involvement
- Stuart Allen, Central Manchester University Hospitals
- Jane McCall, Imperial College Healthcare NHS Trust
- Sandra Richards, Oxford University Hospitals Trust

Service Innovator

- Christine Leary, Hull IVF Unit
- Mathew Tomlinson, Nottingham University Hospitals NHS Trust Fertility Unit
- Leicester Fertility Centre, University Hospitals of Leicester NHS Trust
- Adult Hearing Services, Imperial College Healthcare NHS Trust
- Audiology Team, The Royal Berkshire NHS Foundation Trust
- Paul Blackett, Lancashire Teaching Hospitals
- Pat Clough, Salford Royal NHS Foundation Trust
- Jennifer Gilroy-Cheetham, The Walton Centre NHS Foundation Trust
- Catherine Irwin, Leeds Teaching Hospital NHS Trust

ACE was delighted when Jackson Kirkman-Brown MBE was announced as the winner of the HCS of the year award for 2014. Jackson was recognised for his pivotal role in developing a service to allow members of the armed forces who sustain genital trauma injuries in the service of their country, a mechanism to retrieve and store their sperm for future use, ensuring our injured service men the hope of a better quality of life. Jackson's passion and commitment to this work and the science of andrology in general are a credit to him and the team of scientists he leads.

Jackson's nomination was supported by an emotional account of events written by a couple who had undergone successful treatment following sperm retrieval after the male partner was injured by a roadside Improvised Explosive Device (IED) in Afghanistan.

Extracts from the nominations for the other finalists:
Mathew Tomlinson has for the last decade played a key role in improving the quality of semen analysis in the UK. A founder member of the Association of Biomedical Andrologists, Matt's innovative approach to automating semen assessment coupled with his desire to improve service delivery and address the current UK donor sperm crisis make him stand out from his peers.

Christine Leary is a shining example of success. Throughout her career she has proven herself as a committed, highly competent service innovator. She balances clinical and research roles whilst finding time to contribute to education both in the workplace and as a lecturer. Christine is committed to service development; continual improvement and improving the quality and continuity of care for her patient's experience.

The Leicester Fertility Centre is a prime example of a publicly funded fertility centre which has shown a desire and commitment to change. In a rapidly evolving science and with limited financial resources, the team have ensured that, by careful implementation of service changes to deliver a truly patient focussed service they have been able to ensure patients attending the clinic have the best possible chances of success. The Leicester Fertility Centre was nominated in the Service Innovator category after transforming the delivery of the reproductive science services over seven days a week.

The Leicester Fertility Centre must be congratulated for implementing a ground-breaking training program to allow ambitious school leavers access to an apprenticeship program. Recognising the challenges young people wanting a career in science face when leaving school the team developed and implemented a rolling training scheme in their department which has already resulted in its first success with the first apprentice securing employment in the Trust because of the experience they gathered during their apprenticeship.

Nicky Monks has been key in establishing the STP and fledgling PTP training programs which now underpin training and development of scientists and practitioners in our profession. Nicky's continued and unfaltering commitment to this project as seen her lead a complicated and convoluted process which now represents the future of training for clinical embryologists in England and Wales.

ACE would like to congratulate all the award finalists not only those working in the fertility sector. Without their passion, commitment and expertise we would not be able to continue to improve the standards and range of effective diagnostic and clinical treatments we are able to offer in the spirit of continual service improvement and improved patient outcomes.

HEALTHCARE SCIENTIST OF THE YEAR

Dr Jackson Kirkman Brown

Jackson was presented with his award by Celia Ingham-Clark National Director for Reducing Premature Deaths at NHS England and Professor Sue Hill OBE, the Chief Scientific Officer.

Jackson's citation read:

Dr Jackson Kirkman-Brown's clinical work involves working with the Royal Centre for Defence Medicine at the Queen Elizabeth Hospital, Birmingham, The Queen Elizabeth is the receiving hospital for military casualties, many of whom are serving in Afghanistan.

Jackson's area of specialist interest is infertility and preserving the fertility of men injured as a result of military conflict, he has developed a unique service to assist these injured men.

Jackson and his team recognised that following a blast injury, men with genital injuries required a rapid effective method to retrieve and preserve sperm for future use. Men with genital injuries were diagnosed as facing a future of infertility with an inability to conceive their own genetic child as a result of the injuries received. Jackson and his team developed an innovative method to retrieve viable sperm from these men. Jackson and his team work tirelessly to ensure these men are given every possible opportunity to have their own genetic child following recovery from injury. Jackson has dedicated an enormous amount of his personal time and effort into making this innovative approach a reality. He and his team are on call 24 hours a day to ensure the service is available when required.

This service gives hope to those who otherwise might face a life without children.

Jackson's work was recognised nationally when he was appointed MBE in the Queen's New Years Honours list in 2013. This was followed closely by the birth of the first child to be conceived as a result of the team's pioneering work in spring 2013.

The significance of Jackson's work to the patients he treats was backed up with this personal citation from the first family to successfully have a child following his work with defence casualties:

"When you get the call to tell you that your soldier has been injured – your world falls apart. Not immediately, not for me at least, for me my instinct was to survive, to be the rock that my husband needed and to bring the smiles each day for the very long weeks we spent in Birmingham.

For my husband it was about survival – the doctors and surgeons fought hard in those early days and hours to preserve his life, and as much of his remaining body as they could. After two weeks in an induced coma, we finally dared hope that he would survive, and more than this, that he would find his way back to who he was in mind and spirit.

They told us we were lucky, my husband was lucky, because, sadly, by this point they had had lots of practice with his kinds of wounds, and they were able to save him, when months before possibly they wouldn't have. We were also lucky because some time earlier two wonderful men had happened to be sitting in a pub chatting and asking the questions 'what about our soldier's future?' 'What about family?' Many, if not most of the guys injured in IED blasts, sustain some injury to their groin, what could be done to ensure that these young men could not only survive these terrible injuries, but go on to raise their own families?

These two men were Major John Clarke and Dr. Jackson Kirkman-Brown. They worked tirelessly to overcome a multitude of hurdles related to the practicality, feasibility and medical viability of the process as well as legal issues related to obtaining consent and performing procedures on a patient that may never wake up.

But they persevered because they were convinced of the importance of their work. Of how vitally important it would be for these young men to still have the option of fatherhood not only to enjoy the wonders that this could bring, but also to preserve for the injured soldier his sense of manhood in the fullest sense.

I met Jackson while my husband was still on the ITU, just days after he had woken from his coma. He explained to us the procedure he had done and obtained the necessary consents. We didn't see him again until nearly a year later, when we felt ready to embark on our own journey of starting our family.

We knew we were the very first. We knew there were lots of unknowns, and we knew that it possibly wouldn't work, but Jackson and his team were warm, and thoughtful, and always very clear and honest and we trusted them completely.

It took two attempts of ICSI treatment to get pregnant. I will admit it was a tough process, not least because of the hormones and injections and disappointment of an attempt failed, but also because inevitably it dragged up lots of emotions and anger as to why we were in this position at all.

We were overjoyed to find out we were pregnant. We just couldn't believe it.

We are so grateful to John and Jackson for their vision, their perseverance and for gathering such wonderful people to help them realise such an incredible thing. Without them, we would not have our child, or the hope of any more. Our family would not be complete and my husband would not have recovered emotionally anywhere near as well as he has.

We have named our first child in part after these two men as one day we will tell our children their story, of how they began and of the incredible people who made their lives possible.

We are forever indebted to the hard work of Jackson and his team."

RCPATH FELLOWSHIP SUCCESS!

Christine Leary, FRCPath
Consultant Clinical Embryologist.

In Spring 2013, I was delighted to find out that I was to be awarded Fellowship to the Royal College of Pathologists (RCPath). I was honoured to be presented with my scroll by the president of the College, at a ceremony held last month at the Royal College, Carlton Gardens London.

The RCPath is the competent and authoritative body for professional training and standards in the pathology specialties in the UK, including Reproductive Science. Fellowship of the College (FRCPath) is a widely respected indicator of specialist status and evidence of a commitment to high professional standards in the science and practice of pathology. By successfully completing the College's Part I and Part II examinations, embryologists can continue their career development to Consultant Clinical Scientist Level.

The first cohort of our profession to attain such status were in 2009, since that date 83 Embryologists have begun along this pathway, although I now join a list of approximately 10 to have completed both Part I and Part II and attained Fellowship.

In order to attain the Part II qualification candidates are currently required to undertake a written project. This may be from one of 6 options: dissertation, casebook, published papers, PhD / MD thesis, professional doctorate research thesis or portfolio. I elected to undertake a dissertation and I was required to submit an initial proposal prior to commencing the project. My project was entitled 'The effect of maternal overweight and obesity on oocyte and embryo viability'. Within my proposal I outlined my aims, methods and the likely significance of the study. I included roughly as much detail as would be required for a grant application, I also included details of my ethics application and the supervision I would be receiving.

Embarking upon this route therefore requires a considerable amount of forward planning. Prior to submitting my application I had to ensure I had the following: the backing of my employer, financial support, academic support, research governance approval and as my proposed study involved embryo research, ethics, and HFEA research licence approval. I was in the fortunate position of receiving the full support of my employer and funding to permit me one day a week study leave. A close working partnership with the Hull York Medical School and specifically Professor Henry Leese and Dr Roger Sturmey, meant that I was also able to enroll on a part-time PhD course.

My project then had to be submitted within 3 years of my initial proposal being accepted. This meant that at the early stages of my project I embarked on a steep learning curve,

getting to grips with making embryo culture medium from scratch, learning how to undertake high performance liquid chromatography (HPLC) and how to prepare and perform ultraflourometric assays of embryo metabolism for glucose, lactate and pyrvate. I suddenly felt very much out of my comfort zone and unable to find my way around the unfamiliar environment of the university laboratory or make sense of what now seemed to be very scant detail provided in the methods of published research on which I had centered my background reading! For a number of months I continued to flounder, but with the guidance of other students in the laboratory and regular meeting with my supervisors, I began to find my feet. Gradually I began to amass data from my routine clinical observations, this allowed me to prepare abstracts for presentation at BFS, ACE and ESHRE and resulted in a number of awards. Eventually, after spending many weekends in the company of the fluorescence plate reader and HPLC machine, I gained confidence with their application and actually began to enjoy generating lots of data for analysis, presentation and publication.

President of Royal College presents Christine with scroll

Overall the dissertation necessitated some very careful time-management and a lot of patience. I have to say that learning how to be a student again for one day a week whilst managing an Embryology and Andrology service was not easy! I could not have done it without the support of my colleagues, for which I am very grateful.

Once completed, I submitted my dissertation for examination. The dissertation itself should be 4000-6000 words long and be of a standard suitable for publication. I had to ensure that it entailed an adequate amount of practical work and demonstrated my ability to analyze criticize and present data. After my dissertation was accepted I was then required to undertake an oral exam, which tested my knowledge of latest research, clinical embryology and regulatory matters. The award of Fellowship was in recognition of these endeavors and now affords me the entitlement to use the letters 'FRCPath' as a personal qualification.

I now have a newfound rigour for research; I have an honorary teaching position with the University and continue with my PhD research project with enthusiasm and commitment. I would encourage all Embryologists in a similar position to fight for the opportunity to get involved in research and the challenges and rewards that it brings to the individual, the clinic, the profession and most importantly the patient.

RCPATH POST-NOMINALS AND HCPC PROTECTED TITLES

Previously, when Embryology Part I candidates were successful, they were allowed to take up Diplomate status of the College and were allowed to use the post-nominal DipRCPath. This stopped being offered in 2010. Since then all candidates who attain the Part I level are now offered Associate membership of the RCPath. For those who took up Diplomate status, please note that you have to be a continuous member of the College to continue to use the post-nominal DipRCPath. If you decided not to pay your annual membership fees, then you are no longer allowed to use the post-nominal.

Clinical embryologists with Part I, who then go on to successfully achieve Part II, are allowed to take up Fellow status and are allowed to use the post-nominal FRCPath.

Regarding the protected title 'Clinical Scientist', please note this can only be used once an embryologist has attained state-registration via the HCPC.

On a final note, I recently received correspondence from an embryologist who had seven post-nominals. It is of course a personal choice if someone wishes to post-nominally include earlier degrees, e.g. a BSc if they have a MSc, or a MSc if they have a PhD. If there are any embryologists who can beat this number please let me know!

Bryan Woodward
RCPath Representative

MEETING REPORTS

PRE-REGISTRANT PRESENTATION EVENT

7th – 8th April 2014, Cambridge IVF

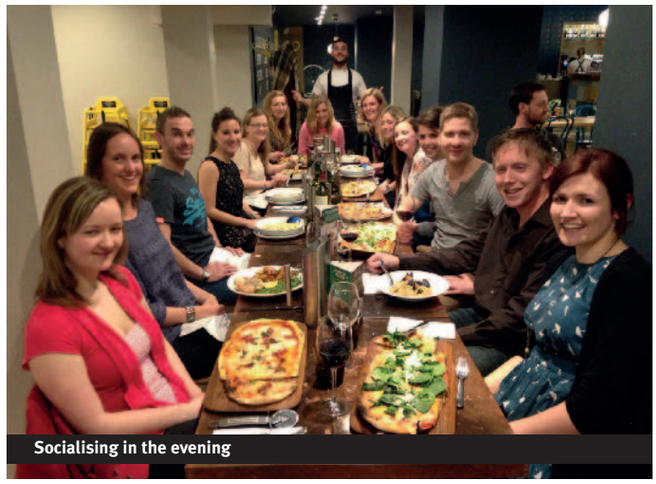
Una McMenamin, Embryologist,
Regional Fertility Centre, Belfast

'Presentation' – a scary word which generally provokes nightmares and cold sweats. Apparently more feared than death and spiders. So why did I decide it would be a good idea to give one, two days before my wedding? Because the ACE Pre-registrant Presentation Training event was happening then, and I was in the process of compiling my portfolio of evidence for submission to ACS. I had heard so many great reports from others colleagues about the skills they had obtained from the day, that although the timing wasn't great, I couldn't miss it. I'm very glad that I didn't.

Thirteen pre-registrant embryologists gathered in Cambridge from all parts of the UK. The first of the two day event began with some essential coffee, and a meet and greet with the other delegates. Next we were introduced to our presentation coach Mark DeCosemo from Excel Communications. We began with an impromptu introduction to the group, a bit like blind date – 'what's your name and where do you come from?' and a statement of what we hoped to gain from the experience. The group had similar concerns, sweaty hands, shaky voice and speaking too fast. The mutual nervousness only added to the camaraderie within the group, as we realised we were all in the same boat.

Mark began by covering the basics – not the infamous advice 'picture your audience naked', but valuable tips on the use of vocals; the tone and pace at which we speak, our physical stance and the use of gestures for emphasis. Next, Mark asked us to come in front of the group and give a mini presentation using some of the techniques he had shown us. The presentations were a description of an everyday problem we have and suggestions on how this could be solved. An excellent idea, as it turns out, when people are talking about something that bothers them, they can really rant! We had some very funny topics for example bad grammar, milky tea making and the London underground. Each of the participants showed great improvement from their earlier introductions, clearly using the skills that had been described. We were then given positive feedback from the group on what we did well, whilst Mark gave us one small critique to work on.

The afternoon session focussed on the use of visual aids during presentations and how to interact with your slides, with techniques such as 'touch, turn, talk'. Mark advised that minimal Powerpoint slides were preferable as it distracted the audience, recommending 3-4 for a 10minute talk. This was met with horror, as the delegates imagined their 10-15 slide shows for the following day! Technical constraints meant we were unable to make any alterations to our presentations following the day of coaching, so, our only option was to enjoy our night. We met for a drink at famous Cambridge pub 'The Eagle' and continued on to Zizzi for a delicious dinner.



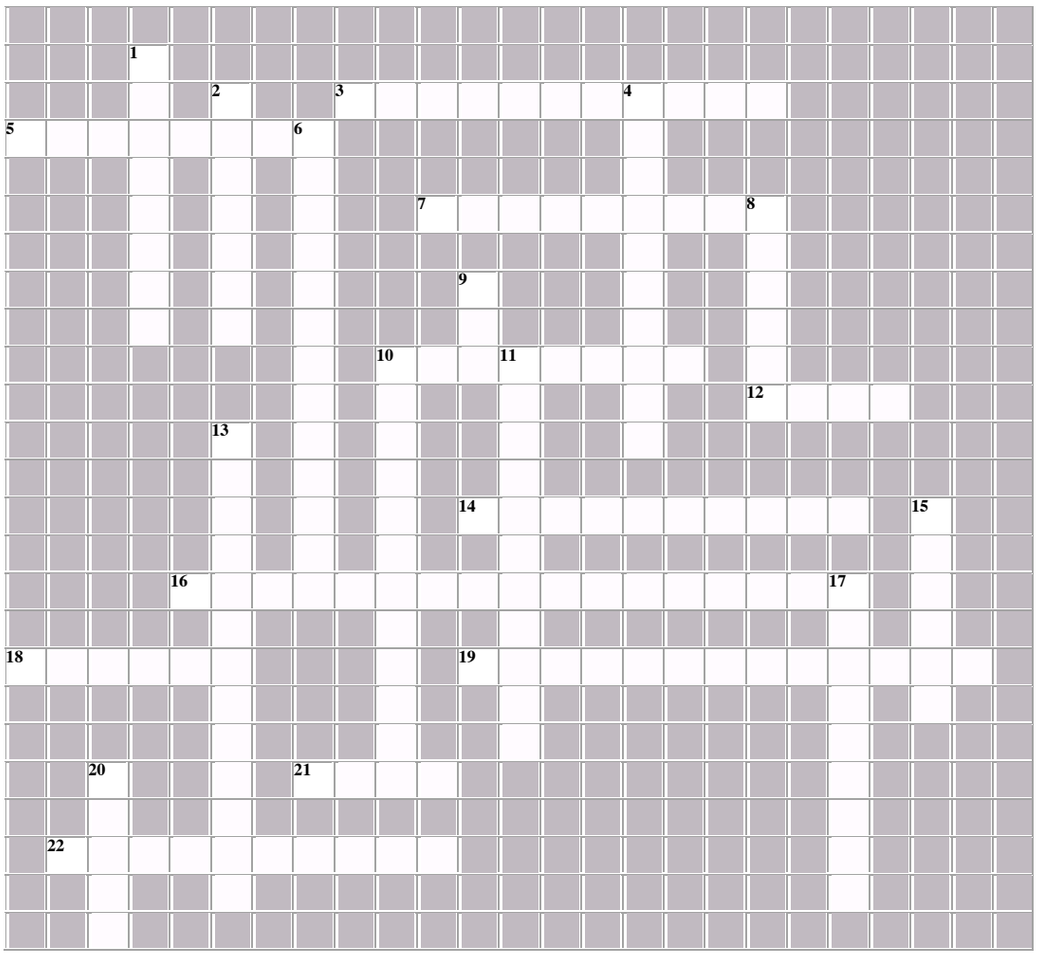
Socialising in the evening

The second day we had the opportunity to put our new skills into action. The presentations covered a wide range of topics including the implementation of Eeva, multinucleation in cleavage stage embryos, and extended culture for embryos unsuitable for cryopreservation at the cleavage stage. The talks were very informative and each member of the group spoke with confidence, clearly heeding the advice given. The day finished with presentations from Sam Byerley on CPD and HCPC registration. The information given was practical and beneficial. Overall this event was incredibly useful, and I would highly recommend it to any pre-registrant embryologist. The atmosphere was relaxed and supportive and it was a good opportunity to meet new embryologists at a similar stage in their career.

Many thanks to all who organised the event who were Laura Shaw, Samantha Byerley and the ACE exec. A big thank-you to Cambridge IVF and Steve Harbottle for hosting the workshop, and thanks to Merck Serono and Cook Medical for providing the funding.

Bryan's Brain Teaser 5

Combining embryo development and football team nicknames



DOWN

1. What they think of Northampton Town (8)
2. Blastomere biopsy medium usually lacks this element (7)
4. These cells have the potential to create an entire organism (10)
6. First line segregation forms this cell type (13)
8. Southampton team and Gerard's role for motherhood (6)
9. Number of months gestation at Manchester United for David Moyes (without delivery) (3)
10. Jack and Meg went to Derry's sweet shop (5, 7)
11. Embryo formed from union of two paternal pronuclei (11)
13. First line segregation forms this cell type (5, 4, 4)
15. Three and a half months gestation for Hull City's cats (6)
17. Blastomere biopsy medium usually lacks this element (9)
20. Haemoglobin needs these to smooth out West Ham (5)

ACROSS

3. These cells have the potential to form any cell type but not an entire organism (11)
5. Second line segregation forms this tissue (8)
7. Cardiff City not quite over Dover (9)
10. Spanish islands for Norwich City (8)
12. Offspring of this Dumbarton team have Y-chromosomes (4)
14. Stage when observable boundaries in between cells is lost (10)
16. Second line segregation forms this tissue (9, 8)
18. This is considered to be the only true totipotent cell (6)
19. Named after Hartlepool's French spy (6, 7)
21. Beckham could have married her in Peterborough (4)
22. Multiple sperm penetration into an oocyte (10)

ANSWER TO BRAINTEASER 4

Move the oocytes on the far left and right of the top row to the same positions on the third row down. Move the bottom oocyte to then form a new top row.

LIQUID NITROGEN, A COOL TOPIC OF CONVERSATION!

Charlene Freeman, Leicester Fertility Centre

This ABA and ACE joint training day on liquid nitrogen started in a rather chilly Portsmouth, but the speakers soon heated things up.

The first session looked at liquid nitrogen safety including why we use it to freeze, how we store it and why we should remain vigilant when using liquid nitrogen. The focus was on training, training and yet more training, especially in the environment in which the liquid nitrogen is being used (the cryostore and the lab). We learnt that f a dewar of nitrogen is spilt during a freeze or thaw, it expands in volume by over 600% from the liquid to gas phase. This would trigger a low oxygen event in your lab and we learnt how to deal with this.

"Mr Safety" (aka Steve Harbottle) started session 2 with a very fetching pair of cryogloves, apron, face visor and sensible shoes. He highlighted the need for good positioning and forward planning of any cryostorage. Having built his own specialised IVF lab in Cambridge, he looked at the logistics of liquid nitrogen movement from storage pressured vessels to the liquid nitrogen and vapour fridge freezers. The key points he made were the less liquid nitrogen has to travel, weather via pipes or over even surfaces in tanks, the better. Furthermore, if you fail to plan then you plan to fail: your cryobank may start off small but, like nitrogen turning from liquid to gas, it can expand rapidly; and whichever storage system you choose, all staff must be trained to use that system. Themes were also echoed in the second half of the day.

Cryobiology and how we dehydrate samples was the looked at in the second half of the day along with how forging links to other nitrogen using within your hospital/ facility can lead to a better use of nitrogen.

During the sessions there were opportunities to speak to other andrologists/ embryologists using nitrogen and the companies that supply the equipment. There were discussions surrounding the HFEA requirement for audit and the safety of samples during this process and the splitting of samples between dewars. Another topic which was raised was that of patient consent and encouraging patients to remain in contact with the clinic, especially those banking for reasons other than fertility, oncology etc., following the latest ruling over the storage of a deceased oncology patients sperm.

Many clinics seem to be keen on introducing contracts that patients sign at the time of sperm storage advising them that, whilst the clinic will make reasonable attempts to contact the patient at the end of the storage period, if patients fail to keep clinics informed of address changes then their samples may be discarded. Other clinics also raised the issue of funding and the post code lottery that still exists. Another interesting area of fertility cryopreservation and the selection of sperm donors was also raised. It will be interesting to see if this is a topic that gets expanded on at ACE/ BFS this year.

This was a fantastic meeting, highlighting all areas of use of liquid nitrogen in ART; let's hope for more of these joint ABA ACE meetings in the future.

9TH ABA ANNUAL GENERAL MEETING – 22ND MAY 2014, PORTSMOUTH

Jo Hanson, Leicester Fertility Centre

After a quick introduction and update for the 9th AGM (and a brief history on the picturesque Portsmouth!), the first session was delivered by Jackson Kirkman-Brown on 'Fertility Preservation for the Armed Forces' in cases of severe genital trauma. Whilst it may be surprising to hear that ~70% of all injuries sustained by the Armed Forces in Afghanistan include genitourinary trauma, Jackson discussed the various sperm harvesting approaches that have been successfully used for men injured in Afghanistan, accompanied by some quite graphic pictures of real-life cases!

The next session was a 'Post-Vasectomy Semen Analysis 2014 Review' by the Committees own Paul Hancock. Taking us on a world tour, Paul's detailed review compared the large discrepancy in criteria for Post-Vasectomy semen analysis outlined in numerous papers.

After the much enjoyed coffee break, Sheryl Homa gave an interesting talk on 'Reactive Oxygen Species – A Contributing Factor to Unexplained Male Infertility?' Whilst sperm require ROS at low levels for normal process such as sperm maturation and capacitation, high levels cause oxidative stress, resulting in reduced motility, reduced viability and poor morphology. Interestingly a main producer of ROS is the phagocytic leukocyte, which should be noted if seen when performing a semen analysis.

Following this, Nicholás Garrido-Puchalt from IVI Valencia talked about 'Sperm Factors Affecting the Outcome of ART'. Numerous sperm factors affecting embryo quality were discussed, and it was suggested that it is not just the quality of the oocytes that influences the quality of the embryo, but also the sperm. This ended in a take home message about the importance of selecting the best possible sperm for ART, to create the best possible embryo.

Once lunch was devoured, Ben Courtney from UKAS delivered an informative talk on the 'Transition to ISO 15189'. This covered what can be expected in initial assessments and the importance of IQC, EQA and staff competency records. Ben also discussed how the main issues identified have been based around verification, traceability and uncertainty. Following this was a debate on whether 'it is impossible (or not) to reliably accredit an Andrology service against ISO 15189' (Proposing: Bryan Woodward, Opposing: Stephen Harbottle). Both raised excellent points, with things heating up on both sides, especially when football teams were brought into the mix!

To finish off, Sue Kenworthy gave a brilliant account of 'Unfortunate Events in the Andrology Laboratory', including a clinic where sample production instructions had been photocopied poorly and read 'keep warm, for example in a jacket po' – the patient arrived with a sample wrapped in a jacket potato!

All in all, it was a brilliant day, with interesting topics covered throughout the day. Looking forward to next years AGM already!

The Embryologist

ACE
The Association of Clinical Embryologists

CONFERENCE CALENDAR:

ESHRE
26 June-2 July 2014
Munich, Germany
http://www.eshre2014.eu/

ESHRE Campus Course: From gametes to blastocysts- a continuous dialogue.
7– 8 November 2014
Dundee

ASRM
18th-22nd October 2014
Honolulu, Hawaii

Fertility 2015
7th-9th Jan 2015
Birmingham ICC

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