

ILLUMIN8

The newsletter for microscope users

Welcome

This issue of Illumin8 focuses on the use of microscopes in the clinical setting. For future issues we would like to know what you want to read about. Moreover if you are doing any interesting research, or have a great microscopy tip, then send an email to

microscopy@olympus.uk.com

or fill in the reply paid card. You can also use these to request your own copy of 'Illumin8' as well as our handy series of leaflets and posters. We hope you enjoy this issue and don't miss our competition to win an Olympus WS-331M voice recorder.



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What Colour is my Cancer?

Sue Morgan MBE, Macmillan Lead Nurse – Teenagers
Paul Roberts, Principal Scientist – Dept Cytogenetics
Jens Stahlschmidt, Consultant Paediatric Histopathologist

All based at St James's University Hospital, Leeds.

One of the well-recognised needs of teenagers and young adults with cancer is their quest for knowledge about their illness and its treatment. Alongside this is their desire to be treated as a partner in, or even an integral part of, the team who care for them.

Unique Study

The development of the unique 'What Colour is my Cancer?' project, where the young people were given unprecedented access to their own cancer samples, addressed these needs. They were able to view their cancer through a microscope, and talk to the experts such as pathologists, cytogeneticists and haematologists, and then take photographs of their cancer away with them.

The small scale study (n=27) was able to establish that young people, given the chance to view their own cancer samples, not only enjoyed the whole experience but had their information needs met in a positive way. More importantly, it also showed that the young people, after 'seeing' their cancer, had an improved overall sense of feeling better about 'it'; where before the session they described their cancer as 'black and evil,' it became, 'pink and pretty' after the session.

Collaboration

Collaboration has been the essence of this project. Scientists, pathologists, haematologists, oncologists, young people, their families, as well as medical and nursing staff have been able to work together to develop this service. The project caught the imagination and interest of all of the departments involved and the managers have been totally co-operative, including those in the pathology department at The Royal Orthopaedic Hospital, Birmingham where specialist bone tumour surgery is performed.

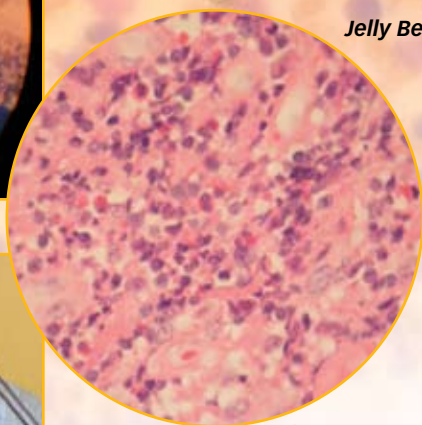
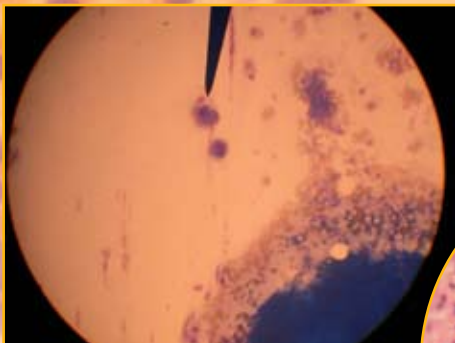
Another benefit is seen in the positive effect that it had on the professionals within the 'hidden specialities,' i.e. pathology and cytogenetics, who rarely have contact with the patients whose samples they process. They found this a helpful experience as they were able to develop an unlikely new partnership - scientists, doctors, microscopes and teenagers with cancer.

Killing the Monster Within

It didn't matter that the young people couldn't always understand what they were being told – the 'seeing' part of the project was the most illuminating for them and the most remarkable effect was that the majority were able to 'slay the

The big, black, evil, destructive, painful, hangmen/aliens in their minds were replaced by insignificant 'jelly beans', 'Grandma's wallpaper' and 'tiny sausages'.

Beautiful Planet



Jelly Beans



monster' in their imagination. The big, black, evil, destructive, painful, hangmen/aliens in their minds were replaced by insignificant 'jelly beans', 'Grandma's wallpaper' and 'tiny sausages'. Even the young man who felt that he was controlled by his leukaemia aliens, now sees his leukaemia as a strange planet which no longer controlled him – his mental health improved and this was attributed, by his Psychiatrist and Psychologist, to being able to see his disease. The young man who drew the hangman now says that he has a better understanding of how cancer works and the cancer that was a lion is now a dead lump of bone – the monsters have gone. Many were surprised at how 'pretty' their cancer was and how fragile and insignificant it appeared to be; they felt that it was easier to beat. There was almost the attitude of 'is that what all the fuss is about?' and one patient said that the cells were so small and the chromosomes so delicate he now felt that he could beat it. This is not to belittle the effects of their cancer, but more to give them a sense that what they have is a part of them, it is not black and mouldy, but colourful and mundane. It is possible that these feelings may give rise to a sense of control over their illness and treatment, aspects that this study has been unable to establish, thus warranting further investigation.

The results also demonstrated, quite clearly, that they responded positively to seeing that the cancer was dead, or no longer inside them. One young man, who had an extreme physical reaction when realising that he was in the same room as his bit of cancer, even felt that the lead weight had been lifted from him – seeing it dead, and he says he can now sleep better at night.

Seeing parts of 'them' was integral to the experience; some even saying that there were not many people who could say that they have seen bits of themselves as cells down a microscope or have a photograph of their bone. They were amazed at being able to see their own chromosomes, something usually reserved for text books in a school science lesson. Prior to the study there were discussions as to whether they should be shown any sample of their disease, or their own. This study informed us that they categorically want to see THEIR samples of THEIR cancer.

Future Plans

The Service is now offered to the young people who are admitted to the unit at St James's, and we have recently taken receipt of a fantastic Olympus microscope with integral camera, computer programme and projector facilities, funded by the Teenage Cancer Trust and

Preparing for the Future, Today

The UK's National Health Service (NHS) and its provision have been through a number of major reforms over its lifetime. Recent drives have seen the introduction of different management structures in an attempt to stop the cash haemorrhaging away and as a result a number of new concepts and business plans have been implemented. Some of the changes have taken place in services that don't regularly hit the public spotlight – for example Pathology. Within the NHS Greater Glasgow and Clyde, a sweeping change to the pathology services has been proposed and is awaiting the green light.

Centralised and dedicated

The hub of the proposed change is a new building on the expanding Southern General hospital site. Tom Downie, Head of Technical Services Pathology North, NHS Greater Glasgow and Clyde (NHS-GGC), one of the exponents of the change said, "The new building is planned to be a state-of-the-art, purpose built utility housing the entire pathology provision for the Greater Glasgow and Clyde NHS." Tom continued, "This change makes a lot of business as well as operational sense since the management of the pathology services across the Glasgow hospital is already centralised. With the correct investment, this system will be much more

Olympus. This enables the young people to be able to see their cancer as extremely clear images on a screen and to take photographs away with them. Their families and friends often want to come into the sessions as well, and this new set up enables this to happen more effectively. We would like to further investigate the views of the young people before and after visualising their cancer samples, and we are seeking collaboration with other professionals, possibly in other centres. We would like to disseminate this information and facilitate the implementation of this service nationally, in an extended collaboration with the Teenage Cancer Trust and Olympus.

Award

The project has also caught the attention of other people, and we have recently been awarded the 'Medical Futures UnLtd Award for Innovation and Enterprise 2007,' at a ceremony in London.

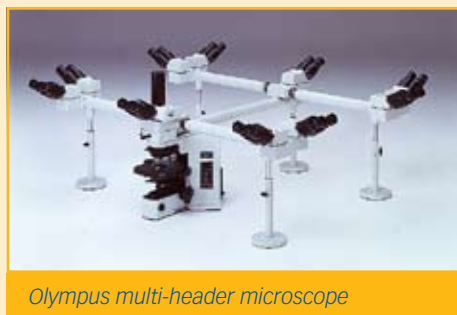
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Tel: 0113 2066205
Ref: Morgan S (2006) 'What Colour is my Cancer?' Master of Arts Dissertation. University of Leeds.

efficient and easier to manage than the present multi-site set-up." The changes have all been laid out in a business proposal and if all given the go ahead will happen in 2010-11.

Planning Ahead

With this change in mind, recent equipment purchases have been carefully aligned to enable the various groups concerned to hit the ground running as soon as they move. A good example of this is the recent upgrade carried out to the histopathology microscopy equipment. An evaluation group was established which developed a clear set of expectations from the microscopes they would purchase. These were placed under four areas: availability, price, specification and user-friendliness. In addition, the suppliers were under assessment as much as the equipment they placed for testing. In the end the evaluation team chose the Olympus microscopes as the most suited to both their immediate and long-term requirements. Tom commented, "The evaluation team not only had to look at the purely instrument-related features, but also at the warranties and service levels, as these play an important and ongoing role in forward budgeting."



Olympus multi-header microscope

The Kit

In all, eleven Olympus BX51 microscopes with five position nosepieces were purchased along with two multi-header training systems (one with eight heads and one with six). A further six BX51 microscopes are on lease, which ensures that all histopathologists and all trainee pathologists positioned at the Glasgow hospitals, have access to the same, high specification microscopes. The two multi-header microscopes have been placed at the Royal Infirmary and the Western Infirmary, respectively, to provide excellent teaching and case review facilities. Tom noted, "The equipment purchased will fulfil all our present requirements and will move with us to the new building, providing the much needed consistency during the changeover."

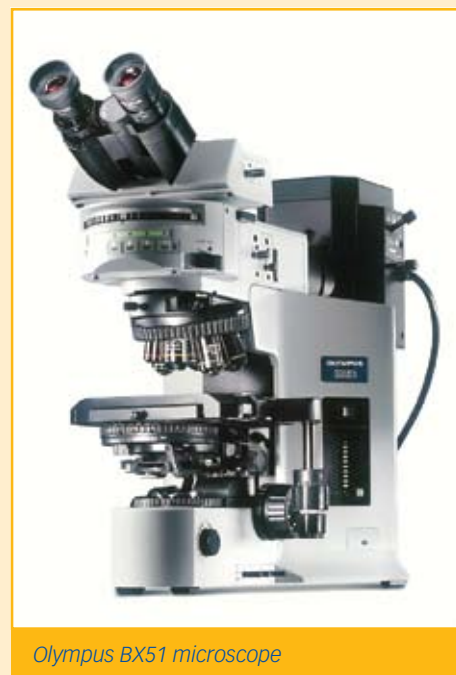
The Olympus Area manager for Scotland, Alain Stewart said, "The Olympus BX51 microscope provides users with the flexibility to carry out whatever techniques they require, from standard transmitted light microscopy through important protocols such as phase contrast and DIC to advanced fluorescence work. The BX51, benefits from a careful ergonomic design which ensures that user comfort is maximised through a number of special features. More importantly for pathology laboratories in general, it uses the latest optics to provide the utmost clarity and resolution whatever the application, ensuring that it provides the best available imaging solution for years to come."

To Conclude

Equipment purchases are often overshadowed by large changes such as the centralisation of the pathology services in Glasgow, but for the NHS Greater Glasgow and Clyde, careful

planning has enabled the two to work together. As a result, the purchase of a number of new microscopes complements both the immediate need for new imaging equipment and the longer term need for hitting the ground running after the move. The provision of extended warranties and good service levels also makes forward budgeting a bit smoother and makes facilities management less troublesome.

To find out more about what Olympus and our products can do for you, please fill in the reply paid card or email microscopy@olympus.uk.com



Olympus BX51 microscope

Future Healthcare **are you Ready?**

The only constant in Healthcare is the constancy of change. This not only impacts on the providers and patients, but also on the suppliers such as Olympus. You may know Olympus as purely a microscope company, or that we also produce a range of other optical equipment such as endoscopes, cameras and binoculars. Some of you will also know that we produce a range of clinical chemistry and immunoassay diagnostic instruments, as well as some rather nifty voice recorders. But how about patient safety systems, managed services and single cell PCR products that are being used to develop a range of novel diagnostic tests?

MULTIPLE PRODUCT RANGES: A BENEFIT TO HEALTHCARE PROVISION

Of all the areas in which Olympus products are used, the healthcare arena has the most to gain from Olympus's extensive product range. On a day by day basis, different elements within healthcare utilise microscopes, endoscopes, cameras, voice recorders, diagnostic instruments, managed service contracts and patient safety systems. Furthermore, a new product line from a subsidiary company – Advalytix – will also begin to play a more important role in healthcare provision.

Microscopes

The article above shows that after careful consideration by a team

of users, Olympus microscopes offer the best combination of features for four key healthcare-related purchasing markers. As a market leader in all forms of optical microscopy, Olympus has developed a range of upright,



Olympus BX45 microscope

inverted and stereo microscopes/macrosopes to provide every user with the advantage of improved clarity and peerless ease of use.

Endoscopes

Olympus has always been at the forefront of medical endoscopy and still pushes the bounds with innovations such as HDTV quality video endoscopy. With products for every endoscopical procedure including surgical and investigative processes, Olympus has the correct scope for any situation.

Cameras and Voice recorders

These two product lines are becoming more and more common in hospitals where they make valuable additions to medical case files by providing clear photos where needed, or offering the
Continued...

entire medical team involved voice recording facilities for clearer and more consistent transcription.

Diagnostic instruments

Olympus diagnostic instruments serve the Clinical Chemistry, Transfusion Testing and Laboratory Automation environments and with the introduction of the AU3000i Immunochemistry System and the consolidated AU-CONNECTOR System, now reach even more areas within clinical laboratories.

Patient safety systems

Olympus has developed a range of software-based tracking systems to help doctors, nurses and pathologists provide a more efficient and safer service. These systems ensure that patients are identified clearly (positive patient identification - PPI) and therefore any samples, tests, blood transfusions, results etc are taken from, or more importantly given to, the right person – e.g. even if there are two John Smiths in neighbouring beds! This is becoming a critical area for hospitals to get right with increasing loads on both clinical and support systems.

Managed Services

One of the most significant shifts in healthcare policy has been the introduction of Managed Service Contracts (MSCs). These enable NHS trusts to not only provide the most up to date diagnostic

services, but also to have much better control over their capital and service budgets: but not all MSCs are born equal! All Olympus MSCs come with a unique "Choice without Compromise" guarantee. Our approach is to actively engage with our customers to understand fully their requirements and to present a solution which truly represents a 'best of breed solution'. How do we do this? Put simply - you are not tied solely to our products and services; we select with your guidance the appropriate solution to meet your operational and clinical needs. This is how Olympus helps you to deliver better patient outcomes.

Advalytix

Advalytix produces a range of equipment designed for the miniaturisation of diagnostic and biological tests for research and development. These products uniquely link imaging technologies, such as microscopy, with nucleic acid analysis, enabling Advalytix to offer turnkey system solutions consisting of both instruments and reagents. Advalytix has developed a portfolio of products for these applications, based on proprietary microelectronics technologies, such as surface acoustic waves (SAW). In collaboration with the University of Graz, Advalytix is developing a safe pre-natal diagnostic test for genetic abnormalities (such

as Down's Syndrome) to replace amniocentesis. The test uses foetal cells extracted from maternal blood samples and therefore removes the need for risky surgery.



Olympus AU3000i with AU-CONNECTOR

Olympus in Healthcare

Overseeing this diverse and growing product range in the UK, Piers Devereux, Managing Director of Olympus UK commented, "Olympus has an exciting product portfolio and is looking at the needs of present healthcare providers as well as towards the future." He continued, "Our aim is to make the jobs of all personnel within healthcare easier, whilst improving the quality and quantity of tests available enabling a better clinical experience for all patients."

To find out more about any of the Olympus products or services mentioned, please email microscopy@olympus.uk.com

Competition time: Your chance to win an Olympus WS-331M **Voice Recorder**



Now with 2GB of memory, the WS-331M gives you more space to meet the soaring demands of voice recording, data storage and high quality audio. With its improved design, this sleek, black, flagship model brings extra style and refinement to an already hugely popular range. We are giving one away, so to be in with a chance of winning you will need to correctly answer the three questions on the reply paid card and return it to us by the 3rd September 2007.

Question 1:

At which UK hospital is Sue Morgan MBE based?

Question 2:

Which Olympus microscope will trainee pathologists be using in Glasgow?

Question 3:

Which Olympus subsidiary is miniaturising diagnostic tests?

Congratulations to Ms M Stark, University of York, Biology Department, for winning The Olympus [mjju:] 770 SW digital camera from the last issue of Illumin8.



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My answers to the competition are:

- (1) _____
(2) _____
(3) _____

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Phase Contrast Cleaning & Maintenance

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Nature Reviews Fluorescence Imaging Collection

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Suggestions for future issues of Illumin8:

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