



The Royal College of Pathologists

Pathology: the science behind the cure

## Blood, guts, microbes and medicine... enter the hidden world of pathology!

<b>Event title</b>	Blood, guts, microbes and medicine... enter the hidden world of pathology!
<b>Venue</b>	Classroom / hall / large room
<b>Target audience</b>	General public / school children / college students
<b>Learning Outcomes (maximum of 3)</b>	<ul style="list-style-type: none"><li>- Develop an understanding of what pathologists actually do.</li><li>- Recognise that there are different subspecialties of pathology which all contribute to diagnosing illness.</li><li>- Learn about the impact of certain lifestyle choices on the human body.</li></ul>
<b>Age range</b>	Initially designed for 11-16 year olds but could be adapted to be suitable for college students or the general public.
<b>How was the event advertised?</b>	<ul style="list-style-type: none"><li>- An article was written in the local newspaper about the first event which was held at a local school. Contact details featured at the end of the article.</li><li>- The quality committee of EMPATH (East Midlands Pathology Service) advertised the event to local staff.</li><li>- Leaflets/posters were designed and circulated.</li><li>- Advertising assistance from STEMNET</li></ul>
<b>Number attending</b>	Class of approximately 30 students – able to repeat the event for several classes
<b>Booking required?</b>	If holding the event at a school, you will need to liaise in advance with the teachers to ensure classroom and student availability.
<b>Length of event</b>	50 minutes – 1 hour – Possible to hold several sessions

	for different classes.
<b>Refreshments provided?</b>	Sweets provided at the end of the session for the students
<b>Equipment needed</b>	<ul style="list-style-type: none"> <li>- Posters providing information about the different pathology specialties</li> <li>- Face paints</li> <li>- Clipboards and 5 x board markers</li> </ul> <p>Histology station</p> <ul style="list-style-type: none"> <li>- Microscope</li> <li>- Model liver</li> <li>- Pictures of liver histology</li> <li>- Microscope slides – normal liver and hepatitis</li> </ul> <p>Microbiology</p> <ul style="list-style-type: none"> <li>- Microbiology plates</li> <li>- Pictures of plates with positive and negative bacterial growth</li> <li>- Images of different types of microorganisms</li> </ul> <p>Biochemistry</p> <ul style="list-style-type: none"> <li>- Urine dipsticks</li> <li>- Sugar free orange squash</li> <li>- Orange squash plus sugar</li> </ul> <p>Haematology</p> <ul style="list-style-type: none"> <li>- Fake blood (clotted and non-clotted) – addition of gelatine</li> <li>- Black and red food colouring</li> </ul> <p>Immunology</p> <ul style="list-style-type: none"> <li>- Magnets</li> <li>- Magnetic and non-magnetic beads</li> <li>- Images of antibodies</li> </ul>
<b>People needed</b>	5 people to look after stations (1 per station). 1 person to be responsible for timing of the session. 1 person to help where needed e.g. take photos.
<b>Printed material used</b>	<ul style="list-style-type: none"> <li>- Histology images (normal liver and hepatitis)</li> <li>- Antibodies</li> <li>- Microorganisms</li> <li>- Results charts</li> <li>- Summary sheet about hepatitis</li> <li>- Feedback forms</li> <li>- Printed layout of room/map</li> </ul>
<b>Room set up</b>	5 stations (5 x tables). Chairs for participants. Information poster next to each station.
<b>Event programme</b>	The session ideally would be held with a class of 30 students, divided up into 5 groups of 6 pupils. We use a fictional patient with hepatitis (a volunteer who used face

	<p>paints to create jaundiced skin and bruising) to illustrate the importance of immunology, biochemistry, histopathology, microbiology and haematology in the diagnostic process.</p> <p>The students are given an introduction to the patient, and told about some of the signs and symptoms he/she has been experiencing. The task for the pupils is to work around a series of stations performing tests that help them make a diagnosis for the fictional patient. The activities included urine dipstick testing (identifying the presence of bilirubin in the urine of our patient), blood clotting activities (identifying the fact that the blood from our patient did not clot as well as normal blood due to clotting factor deficiencies), preparing an agar plate (testing whether our patient was suffering with a bacterial or viral related infection), learning about the role of antibodies (using magnets to find which type of antibodies were present in the patient's blood), and microscopic examination of liver biopsies (observing what normal hepatocytes look like and then comparing them to hepatocytes affected by hepatitis). Each group are given a results chart that they use to fill in the results and at the end of the session. Once completed, they follow the key based on their results and make a diagnosis of hepatitis.</p> <p>The session ends with a discussion about what hepatitis is and what can cause it. Each pupil is given an information sheet to teach them more about the condition. They are also given a 'goody bag' containing pathology careers information leaflets, pens, and wrist bands, very kindly provided by the Royal College of Pathologists, and some sweets as a reward for the correct diagnosis! All volunteers joined STEMNET who were able to provide us with support and advice, insurance and a security check to enable us to enter schools.</p>
<b>Possible variations</b>	This example uses hepatitis secondary to excessive alcohol consumption. However, other themes may include lung cancer and smoking.
<b>What did the audience particularly like?</b>	The audience enjoyed the practical aspects and the interactive approach of the event. They also enjoyed meeting doctors/those working in science. Within the feedback, they also mentioned that the team was friendly and approachable who provided ideas for their future careers.
<b>What surprised</b>	The audience at first had the perception that pathologists

<b>the audience?</b>	were responsible for investigating murders and performing post-mortems. They were surprised that the majority of a pathologist's work is based around diagnosing and treating living patients.
<b>What else would the audience have liked?</b>	There were no recommendations provided in the feedback, but from a tutor perspective, some more complex activities for the older children would be beneficial.
<b>How much preparation was involved?</b>	<ul style="list-style-type: none"> <li>- Design and printing of the posters</li> <li>- Liaison with school</li> <li>- Acquisition of team</li> <li>- Design of activities</li> <li>- Application for funding grants (if applicable)</li> <li>- 5 planning meetings with team</li> </ul>
<b>Any other comments?</b>	Thoroughly enjoyable event to run/take part in.
<b>Images</b>	See below
<b>For more information please contact</b>	Dr Matthew Clarke matthewclarke20@yahoo.com







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# Crown Hills Community College pupils get a visit from Leicester Pathology in spotlight



LEICESTER MERCURY: (CLOCKWISE FROM TOP LEFT) Pathology from the Leicester Royal Infirmary visit Crown Hills Community College

**PETER SOAMES**  
 In a city and an event space, where the Leicester Royal Infirmary team visited Crown Hills Community College pupils to see how they are studying medicine. The visit was part of a series of events to celebrate the college's 10th anniversary. The team from the Leicester Royal Infirmary, led by Dr Peter Soames, spent time with the students in the laboratory, showing them how to use a microscope and how to handle a specimen. The students were given a tour of the laboratory and saw how the team works to diagnose and treat patients. Dr Soames said: "It is a pleasure to visit the college and see the students' progress. We hope to continue to work with the college in the future to provide more opportunities for the students to learn from our experts."

# Royal Infirmary team to lift lid on the ins and outs of their daily jobs



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