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Welcome to the December/January edition of ePathWay

It’s the time of year when we reflect on achievements from the year just gone, and contemplate what we might accomplish in 2016. We have started this with a combined retrospective/prospective look at Pathology Update 2015 and 2016.

We’ve also placed ourselves on a certain person’s naughty list for the foreseeable future. We intoxicated Santa to see what happens to his driving skills at different blood alcohol concentrations, and the outcome wasn’t good for him or Christmas.

On a brighter note, we also report on a young husband and father who underwent Australia’s first combined small bowel and kidney transplant thanks to the generosity of an organ donor. The operation was successful although his journey is not over yet. We explain why, but he will be able to eat Christmas dinner for the first time in years.

And finally, if you feel like tearing your hair out this festive season, spare a thought for people who have alopecia. Their hair falls out of its own accord, and some of the hair loss facts will surprise you.

Merry Christmas from the ePathWay editorial team, and we wish you a safe and healthful new year. See you in February.

Interesting Facts

145
The number of speakers at Pathology Update 2016.

9
The number of international speakers at Pathology Update 2016.

Pathology Update provides ongoing benefits for the wider community
The number of posters accepted for the Roche Scientific Poster Display.

Source: RCPA

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In February every year, hundreds of pathologists and scientists attend what appears to be "secret pathologists' and scientists' business" during Pathology Update. In some ways it is a closed shop, but only because of the high level information shared amongst these experts. The upside is these conferences produce valuable outputs for the wider community.

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It's party season and you might be looking forward to relaxing in good company and perhaps enjoying a glass of wine or two ... or three ... and then maybe one for the road. Social drinking increases at this time of year, so we've 'given' Santa some sparkling wine to see what happens to his driving skills once he has a few glasses under his belt.
Organ donation gives young husband and father a second chance

Tim Boyle made medical history when he underwent Australia’s first combined small bowel and kidney transplant earlier this year. The operation was successful but his journey is not over yet. Weekly biopsies are required to watch for signs of infection and rejection to ensure they are identified and dealt with as soon as possible.

Alopecia has some hairy causes

If you feel like ‘tearing your hair out’ during the festive season, spare a thought for people diagnosed with alopecia. They have a medical condition characterised by hair falling out of its own accord from anywhere hair grows on their body, including their head.
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Pathology Update provides ongoing benefits for the wider community

In February every year, hundreds of pathologists and scientists attend what appears to be “secret pathologists’ and scientists’ business” during Pathology Update. In some ways it is a closed shop, but only because of the high level information shared amongst these experts. The upside is these conferences produce valuable outputs for the wider community.

Pathology Update conferences are not small affairs. This year 1290 delegates from 18 countries, including Qatar, Bhutan and Israel, attended. They are also an annual launching pad for medical innovations and information.

One example is the set of new standards launched at Pathology Update 2015 that can be applied across clinical databases used in genetic testing. These standards ensure patients are in a position to make better-informed health decisions that may affect them, their children and potential offspring.

Unnecessary folate testing was also flagged as an issue in response to the number of low risk patients being tested at a cost of millions of dollars to taxpayers. The College subsequently released a position statement in November clarifying the use and interpretation of vitamin B12 and folate testing for diagnosing and monitoring deficiency.

This is only a snapshot of what transpired at this year’s conference and the subsequent benefits for the community. Pathology Update 2016 is shaping up to be outstanding as well.

Professor Ian Frazer will deliver the Eva Raik Plenary Lecture: Immunotherapy for cancer: progress at a cost we can afford?, and Professor Geo Lindeman will deliver the Innovations Plenary Lecture: Understanding breast stem cells to get abreast of breast cancer.

Nine international speakers are flying in to present lectures including:
● Professor Adam Bagg, Professor of Pathology and Laboratory Medicine at the University of Pennsylvania.
● Dr Kym Boycott, Medical Geneticist at the Children's Hospital of Eastern Ontario (CHEO) and Investigator at the CHEO Research Institute.
● Professor Rossa Chiu, Choh-Ming Li Professor of Chemical Pathology and Assistant Dean (Research) in the Faculty of Medicine at The Chinese University of Hong Kong.
● Dr Stephanie Dancer, Medical Microbiologist in NHS Lanarkshire and Editor-in-Chief of Journal of Hospital Infection.
● Professor Jonathan Kay, Clinical Informatics Director at NHS England and Professor of Health Informatics at City University London.
● Dr Joshua Milner, Senior Investigator at the Genetics and Pathogenesis of Allergy Section at the National Institute of Allergy and Infectious Diseases (NIAID) in Maryland, USA.

“All of these speakers are outstanding representatives for their disciplines and we are looking forward to their contribution to Pathology Update 2016,” says Ms Eve Propper, Events and Sponsorship Manager for the RCPA.

Another attribute of Pathology Update is the unique opportunity for delegates to attend lectures outside of their specialty.

“Because all of the pathology disciplines are represented at the same venue at the same time, haematologists can sit in on genetics lectures, anatomical pathologists can attend chemical pathology lectures and so on. That’s an important and distinctive aspect of this annual scientific meeting,” explains Ms Propper.

At the end of each three-day Pathology Update conference, dozens of lectures have been delivered to hundreds of delegates. Trainee pathologists have met their examiners. New Fellows have been admitted to the College. Pathologists and scientists from all around the world have shared information and expertise in academic and social settings. And all of this ultimately translates into better diagnostic and healthcare outcomes for the wider community.

Pathology Update 2016: A Diamond Date. Friday 26 - Sunday 28 February 2016 Melbourne Convention Centre, South Wharf, Melbourne.
Drink driving could knock Santa off his sleigh tonight

It’s party season and you might be looking forward to relaxing in good company and perhaps enjoying a glass of wine or two … or three … and then maybe one for the road. Social drinking increases at this time of year, so we’ve ‘given’ Santa some sparkling wine[*] to see what happens to his driving skills once he has a few glasses under his belt.

But before we put Santa through his paces, let’s revisit a few facts about alcohol. Associate Professor John Gall, Forensic Physician at the University of Melbourne, says alcohol is the most well investigated drug in existence. Its effects on the body are well documented, but he cautions the descriptions are still only guides because alcohol doesn’t affect everyone in the same way at the same time.

“If I gave a person three standard alcoholic drinks now, and exactly the same drinks in three days time, and they drank them in exactly the same way, their blood alcohol concentration (BAC) would be different on the two occasions,” he explains.

“This is because the BAC depends on a range of factors such as how full or empty the person’s stomach was at the time, their physical build, their sex, if they have a stomach irritant or gastrointestinal problems, their emotional state and medications they might be taking.”

Alcohol is actually a depressant drug that slows down the activity of the central nervous system, including the brain. It affects perception and motor skills. So let’s give Santa a couple of glasses of sparkling wine to kick his rounds off on Christmas Eve and see what happens.

After his first two standard glasses, Santa’s BAC is around 0.02%. At this level he is feeling relaxed but having trouble doing two tasks at the same time. That’s not good news if you wanted him to give you a present and answer your thank you letter.

He then has another glass of bubbly, and that’s put him at 0.05%. His coordination isn’t as good, he’s having difficulty steering the sleigh and he’s feeling a bit drowsy. He also has impaired judgement so he has another couple of glasses of
bubbly, despite the obvious effects of the alcohol on his motor skills, and leaves a hedge trimmer under a Christmas tree for a two year old.

Santa’s BAC is now at 0.10% and his speech is slurred. He’s also not able to stay in his lane or brake appropriately. And if he has another couple of drinks, his BAC would be at about 0.15% and he would probably fall out of his sleigh because he’d lost his balance.

“The tables that show the effects of blood alcohol concentration on the body at different levels have been around for about 30 or more years. They clearly demonstrate that the advice to not drink and drive is very sound, and if a person gets caught over the limit through a breathalyser, the police often request a blood test to confirm the blood alcohol concentration for evidentiary purposes,” explains A/Prof Gall.

That’s not a good outcome for an international icon like Santa, or for anyone for that matter. So toast family, friends and the New Year in a responsible way, and have a back-up plan if you have too much to drink. And if you’re a one-man team like Santa, you should choose drink or drive – but not both.

Why did we choose sparkling wine?
Because it’s a common drink over the festive season and it goes to your head faster than stronger drinks such as scotch. A/Prof Gall says this is thought to be because sparkling wine affects the gut’s motility, and opens the sphincter to the small bowel where it is quickly absorbed into the bloodstream.
Organ donation gives young husband and father a second chance

Tim Boyle made medical history when he underwent Australia’s first combined small bowel and kidney transplant earlier this year. The operation was successful but his journey is not over yet. Weekly biopsies are required to watch for signs of infection and rejection to ensure they are identified and dealt with as soon as possible.

Tim’s journey started 12 years ago when a twisted bowel meant he had to have almost all of his small intestine removed leaving him dependent on intravenous nutrition. His kidneys then failed about 18 months ago, prompting his doctors to put him on the waiting list for an organ donation.

“Tim was hooked up to intravenous nutrition and then dialysis for about 50 hours a week so we hardly saw him,” explains his wife, RCPA Fellow Dr Robyn Laurie.

“But the operation and the amazing gift of life from the organ donor means he has been restored to his family and society, and can be a productive person again free from machines. It also means my two young daughters will have their dad around as they grow up.”

While Tim is able to eat a normal diet again and no longer needs dialysis, he does need constant monitoring including weekly small bowel biopsies.

“When we look at the biopsies down the microscope we are looking for reaction patterns from bacterial or viral infections, drug toxicities or from rejection of the organ,” explains Dr Julie Lokan, Anatomical Pathologist at Austin Hospital in Melbourne who is Tim’s consultant pathologist.

“Sometimes a patient can have two reaction patterns at the same time, and other changes that might mimic rejection, so we
have to have specific expertise in interpreting these biopsies. The transplant physician says that he is ‘steering the ship’ in terms of the patient’s care, but we as pathologists are guiding him on where to steer it.”

Dr Laurie describes the operation and organ donation as saving her husband’s life and changing their family’s life, and the ongoing monitoring as reassuring.

“It also means my family can sit down to a family Christmas lunch together for the first time in years without a machine in sight.”

Find out about becoming an organ donor on the DonateLife website.
Alopecia has some hairy causes

If you feel like ‘tearing your hair out’ during the festive season, spare a thought for people diagnosed with alopecia. They have a medical condition characterised by hair falling out of its own accord from anywhere hair grows on their body, including their head.

Associate Professor Patrick Emanuel, histopathologist at the Auckland District Health Board, says pathologists determine the cause of alopecia when the clinical signs and symptoms don’t point to a firm diagnosis.

“We receive biopsies of the affected area to look at under the microscope. We assess such things as the number of hairs, their morphology or structure, and whether there is any inflammation present. We also determine if it is scarring or non-scarring alopecia, which are the two main classifications, because of the different treatment implications.”

Scarring alopecia is typically caused by inflammation that destroys the hair follicle, and may lead to irreversible hair loss. Some causes might be inflammatory disorders, fungal infections or mechanical traction associated with regular aggressive hair-styling techniques.

Non-scarring alopecia is the most common type. It includes male and female pattern hair loss (androgenic alopecia or common baldness), alopecia areata where hair is lost in round or oval patches and usually grows back again, and telogen effluvium which is transient hair loss from different causes such as medication, pregnancy or stress.

“Sometimes the treating doctor will request a hair pull test where they simply pluck or pull hairs out of the patient and send them to a pathologist for examination. We assess how many hairs are in different stages of the growth cycle and look for underlying causes of disease such as telogen effluvium,” explains A/Prof Emanuel.

Alopecia has numerous risk factors as well, including getting older and a family history of baldness.

*People think it’s normal to go bald as they get older, but androgenic alopecia is regarded as a disorder. Bald people are not
hairless either. The hairs are still there, but as people go bald the hairs become smaller and smaller until they are so small you can’t see them anymore,” says A/Prof Emanuel.

This insight might offer some consolation to the millions of mostly bald men in the world who can still claim to have a full head of hair, even if it’s not visible to the naked eye!

Treatment for alopecia depends on the underlying cause, although A/Prof Emanuel says there is limited success in treating androgenic alopecia. Another aspect to consider is the psychological impact of hair loss in a culture where hair holds a significant aesthetic value.

So if you reach the point where you feel like tearing your hair out over the festive season, remember. Psychological stress is also a risk factor for alopecia, so keep calm and count your blessings - or hair follicles - instead.