HGVT

Org. No. A003523F

PARAFFINALIA NEWSLETTER

VOLUME 25, NUMBER 2
June 2020

The HGVT aims to provide a dynamic continuing education program in which all persons with an interest in Histology and Histotechnology are freely invited to participate.

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Committee Page

The members of the Histology Group of Victoria and Tasmania 2020 are:

Name	Institution
Kerrie Scott-Dowell	Dorevitch Pathology/Leica
Adrian Warmington	Dorevitch Pathology (Ballarat)
Mark Bromley	Sullivan Nicolaides Pathology
Elizabeth Baranyai	Cabrini Health
Alison Boyd	Northern Hospital
Kellie Vukovic	Melbourne Pathology
Sue Sturrock	Melbourne Pathology
Yvette Beaber	Monash
Samantha Arandelovic	Mater Hospital Brisbane
Emma Pan	Walter & Eliza Hall Institute
Alex Johnston	Walter & Eliza Hall Institute
Sukwinder Sohal(Romi)	University of Tasmania
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Bindi Bates	Peter Mac
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Author enquiries and readers wishing to contribute articles or reports can contact the Editor - editor@hgvt.org.au

Please email articles (preferably Microsoft Word format) for inclusion in the next edition to editor@hgvt.org.au All items submitted for publication will then become the sole property of the Histology Group of Victoria Inc.

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President's Report

Welcome to June Paraffinalia!

Hope everyone is finding ways to keep themselves amused and productive during Iso restrictions. We are all busily working through ways to manoeuvre around the workplace, supermarket, exercise, and keep in touch with those that matter. I have embraced many forms of communication during this time to keep connected to family, friends, work and committees. I have Zoomed, Hungout, FaceTimed, Teamed, Skyped and gone to the Virtual Meeting Room.
I think we all now appreciated how lovely it is to see people in person and some of the simple things like doing family jigsaws and walking in a park. It also good for many of us to see elective surgery is back on and employees are slowly returning to shifts.
The committee is looking at ways to provide further education to our members and anxiously watching for when we can gather again. We will forge ahead with a virtual meeting in June and all members will get an invitation.

Great big elbow bump to you all.

Kerrie Scott

Kerrie Scott
HGVT President

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“Virtual Meeting”
“Cut up Presentation”

Speakers: **“ UTERUS” Kellie Vukovic (Melbourne Path)**

“PLACENTA” - TBA

Date: Thursday 18th June 2020

Time: **6:45- 7:00 – Joining the meeting**

7:00 – 7:45 **-** Presentation

Link: **Zoom Meeting**

Join Zoom Meeting

https://zoom.us/j/92251713105?pwd=Y3pOS1Fld2ZYdVBWUkZHLy9SYWk5UT09

Meeting ID: 922 5171 3105
Password: 224719

Attendance at this meeting contributes to APACE points

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GenomeMe CANADA

Sarah has worked in the diagnostic market for many years. Whilst completing a Bachelor of Applied Science (Medical Laboratory Science) at LaTrobe University, and a Masters of Biomedical Science at Monash University, she spent University holidays gaining practical experience by working in various pathology laboratories. She also worked in research and development at CSL.

Sarah moved to the commercial sector working for various companies including BD and Siemens, she now assumes responsibility for business development in Victoria, South Australia and Tasmania. Her new role will include promoting innovative new products to MetaGene's southern region customers.

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Sarah Dower

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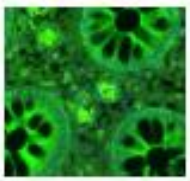

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UNDER THE MICROSCOPE WITH OLA ALADASSI

What was your first part- time job?
It was a laboratory technician in Histopathology and Biochemistry departments at private laboratory.

How long have you worked in histology?
Almost three and half years with internship.

When people ask, "So, what do you do?" How do you explain Histology?
I asked them if they have ever hear biopsy. And then explain them that it is a testing of these tissues using different techniques.

What is a skill you'd like to learn and why?
I love hands on work and this what I think skill is to get an expert in any type of hands on work.

If money was no objects, what would you do all day?
I like reading to enhance my knowledge. Especially which explores nature.

What's an ideal weekend for you?
When I am only with myself.

If you could take only THREE items with you to a deserted island, what would they be?
Books Painting stuff Sewing and handcraft.

What's on your bucket list this year?
Explore and utilize my skills which I learned during my master degree, also planning to start my PHD with good project.

Where do you most want to travel, but have never been?
Ireland and Japan.

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Review of Virtual Meeting held by the Histology Group of Queensland

The Histology Group of Queensland got ahead of the game with a virtual meeting that they have kindly agreed to share. The HGVT have shared it also on our Facebook page, so please feel free to have a look/listen. I enjoyed the 3 case studies grouped under the title 'Abscess Minded'.

Case1 Presented by Dr Ben Van Haeringen
Patient presented after odd behaviour resulting in a car accident. There were minor neurological symptoms, subsequently CT scans of his head showed a large mass. The differential diagnosis was a malignancy. CSF cytology and culture were not conclusive, so tissue samples were obtained. The mass was subsequently diagnosed as a Cryptococcoma due to either C. neoformans or C. gattii. Patient started on antifungals and abscess drainage, but patient behaviour meant follow ups not possible. The discussion as to why these fungi are so virulent and how it manifests in the CNS, was particularly interesting, as was the likelihood the patient was infected from soil, tree bark or bird droppings. (that is it for gardening in iso for me)

Case 2 presented by Dr Mairi Jarvis
The next case presented after chopping wood with lots of dust. He presented with a cough and later headaches, before having a seizure. MRI and lung biopsy were performed. the MRI showed a cerebral lesion, query abscess with a the differential diagnosis of a malignancy. A biopsy showed branching, filamentous bacteria Actinomycetales. Cultures and sequencing showed the pathogen to be Nocardia Paucivorans. Patient was treated with neurosurgery and long term antibiotics.
This bacterium is also found in soil and fortunately for us Southerners, is more common in Qld (although another strike against iso gardening).

Case 3 presented by Dr Kate Berry
This patient had a very complicated history involving a lung transplant, CMV and post-transplant seizures. CT and MRI showed a lesion in the brain. Guided drainage of the abscess isolated fungal growth which was sequenced as Paecilomyces, as well as a further fungal sequenced Acrophialophora Levis (another soil related pathogen). Patient management was difficult with CMV recurrence, this fungal abscess and the possibility of organ rejection. With time there became increasing neurological symptoms, a further biopsy of the abscess area was taken and the immunomarkers proved a cerebral lymphoma. Lymphoproliferative disorders are more common post-transplant, after long standing inflammation and has poor prognostic factors.

Thanks to the HGQ for sharing. There are also other presentations available, so please take some time to immerse yourself. In light of the dangers of gardening, further education seems like a good, safe plan.

Kerrie Scott

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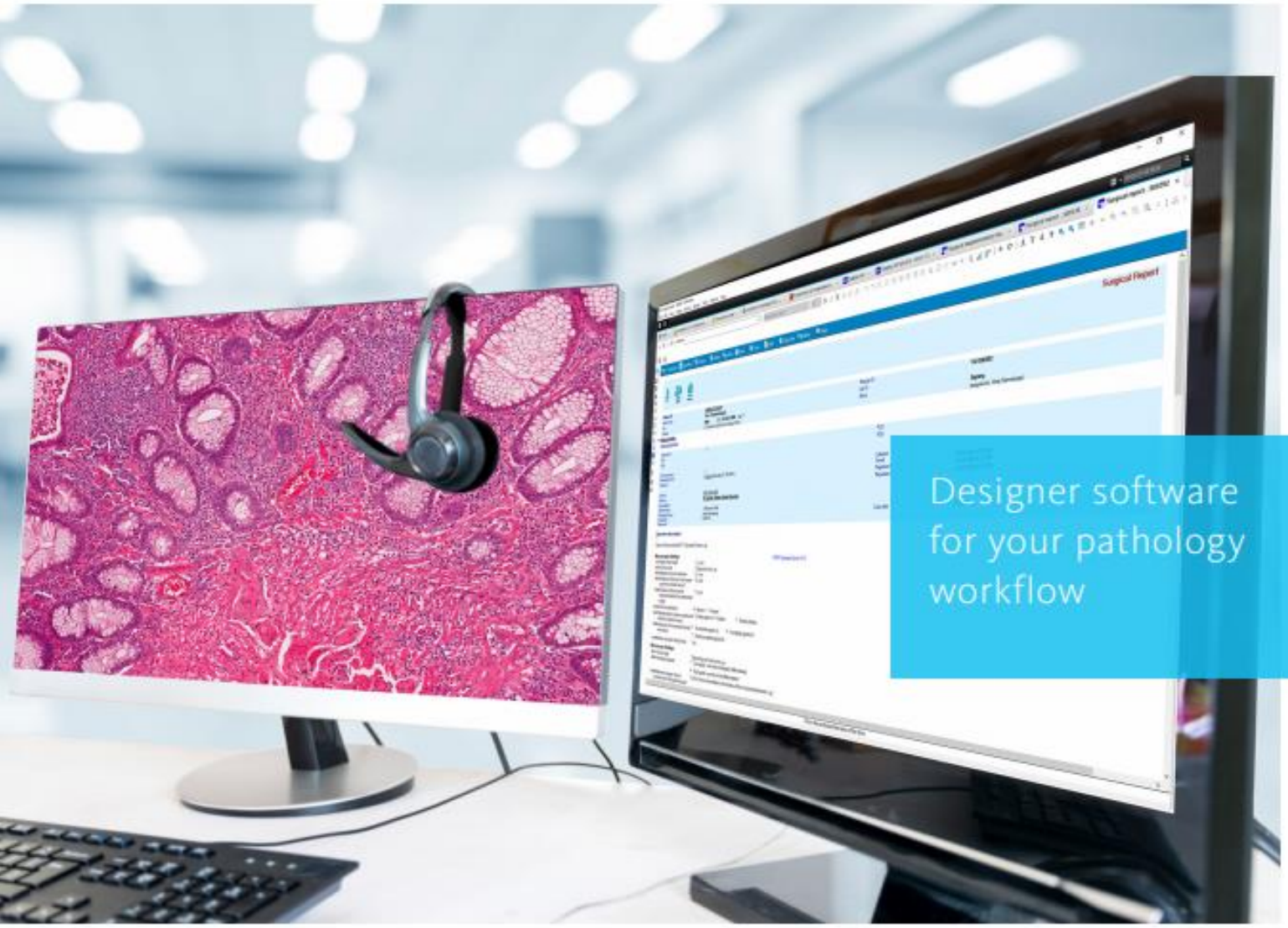

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JOURNAL REVIEW
BY KELLIE VUKOVIC

Quantifying Potential Error in Painting Breast Excision Specimens

Thomas Fysh, Alex Boddy and Amy Godden

The journal article published in the International Journal of Breast Cancer discusses the human error associated with inking breast specimens in a histology laboratory. When excision margins are close or involved following breast conserving surgery, many surgeons will attempt to re excise the corresponding cavity margin. There are six identifiable margins on a breast specimen that are inked or painted for a pathologist to assess, a process that is prone to error at several stages.

An enduring debate amongst breast surgeons concern the adequacy of excision margins for both invasive and in situ carcinoma. As yet, no unequivocal consensus has been reached as to what exactly comprises an adequate surgical margin after breast conserving surgery. Typically, a specimen is excised and then painted or marked according to a protocol to indicate laterality and boundaries. A histopathologist receives a specimen that can then be orientated such that the location of any residual disease can be identified. It has been shown that inking specimens at the time of the excision during surgery, is preferable to inking by the pathology department in terms of re excision rates.

The paper discusses how this current practice of specimen inking is fundamentally flawed. No breast excision specimen is a perfect cylinder or six sided figure. The margins are in continuum such that the transition from one margin to the next is an imaginary line that is determined by the person painting the specimen. The shape of the human breast can also be an issue and an excision may not actually have six true faces. The surgical cavity itself will deform over time and the shape of the surgical cavity will vary with patient positioning and retraction during the re excision procedure.

In the experiment, the aim was to quantify as far as possible, the error inherent in specimen inking, specifically concerning the ascription of margin boundaries and hence the surface area of specimen faces. The order of inking was also looked at to assess if there was any difference in surface area, with there being some opinion that the last surface painted was often larger than the rest.

An experimental model to represent a breast excision specimen was created and scanned on a flatbed scanner. Water filled balloons were used with the knot representing its most superficial surface. It was acknowledged that the balloons could not be under any tension that might distort the final surface area being scanned and it was found that 70ml of water achieved the desired effect. Three volunteers who routinely ink breast specimens were asked to paint the six faces that were then assessed against a control. Three sample comparisons were made – first painted surfaces verse controls, last painted surfaces verse controls and other painted surfaces verse controls.

The study found enormous variation in the surface area of the painted surfaces compared to the control and that the last painted surface was consistently 18% larger than the other controls. The problem with painting a breast specimen is not that it is breast tissue, but that like the model, it is irregular and has no definable shape and confluent surfaces.

This study is the first to attempt to quantify the extent of human error in marking imaginary boundaries on a breast excision model and suggests that humans do not make this judgement well. The measurement and orientation of margins is prone to errors at many stages. Although the order of magnitude of this error was extremely variable, it was frequently so great that some surfaces were twice as large as they should have been. It fuels opinion that whole cavity re excisions and mastectomy are the safest options following incomplete breast cancer specimens.

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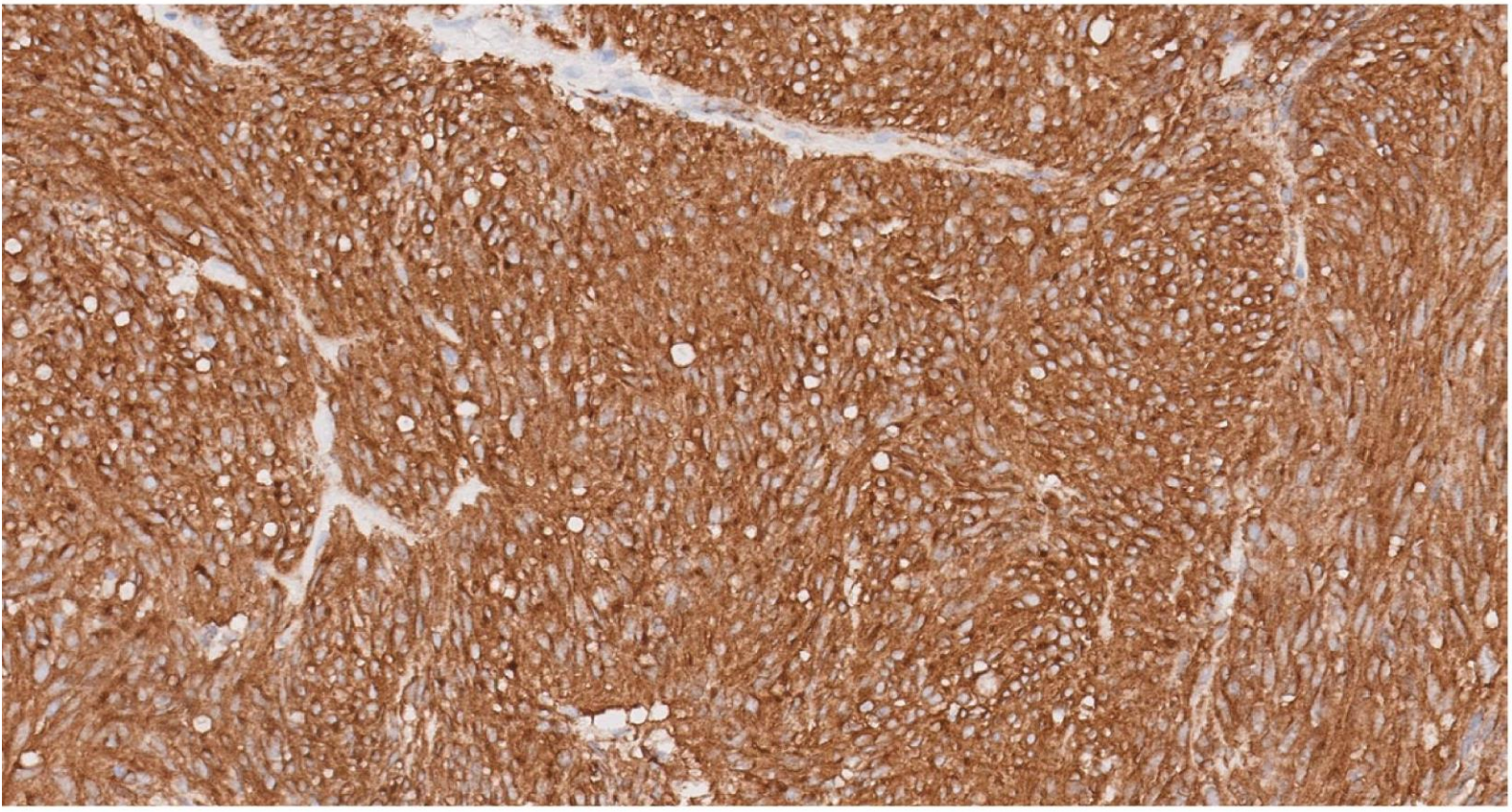

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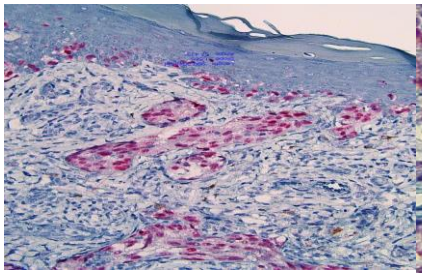
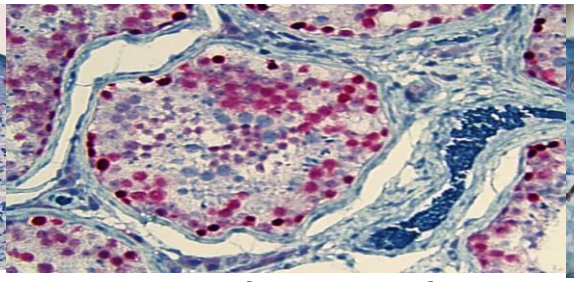
MC-AU-00462

IHC Stain of the Month

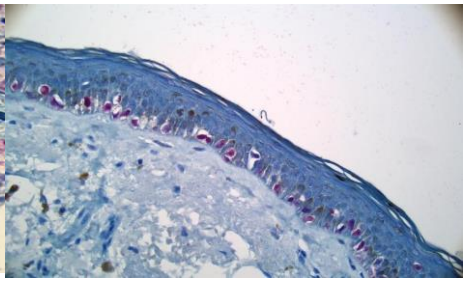
June 2020

Samantha Arandelovic





Testis control



HMF

PReferentially expressed Antigen of MElanoma (PRAME)

PRAME (PReferentially expressed Antigen in MElanoma) is a tumor-associated antigen that was first identified through analysis of the specificity of tumor-reactive T-cell clones derived from a patient with metastatic cutaneous melanoma. It was subsequently found that PRAME is not only expressed in cutaneous melanoma, but also ocular melanoma and various nonmelanocytic malignant neoplasms, including non-small cell lung cancer, breast carcinoma, renal cell carcinoma, ovarian carcinoma, leukemia, synovial sarcoma, and myxoid liposarcoma. Normal healthy tissues are not known to express PRAME except for testis, ovary, placenta, adrenals, and endometrium. Because of its expression profile, PRAME is a member of the family of cancer testis antigens (CTA), and an attractive target for immunotherapy.

The melanocytes show nuclear labeling for PRAME. The sebaceous glands show cytoplasmic labeling.

Limitations – up to 10% of conventional melanomas won't be positive. The majority of desmoplastic melanomas are negative. Focal expression and rarely diffuse expression may be present in naevi. Suggested uses: can be useful for margin mapping, particularly poorly defined HNF/LM type melanomas. May help in sentinel nodes distinguishing mets from nodal naevi.

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‘Slice of Life’

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During recent times, we have all faced workplace changes to protect each other while also allowing us to perform our integral ongoing role in helping the public. With social distancing being the foundation of many strategies and as histology doesn’t lend itself to working from home, shifts and work areas have been transformed. Some of the changes noted have been:

		
Hand sanitisers have popped up everywhere!	Lab coats are now covered to prevent contamination	Helping others with queries is also spaced out a.k.a assistance from a distance

The HGVT would like to recognise the efforts of everyone during this period, to adapt in such a time is no small feat and we look forward to a return to the norm in the future.

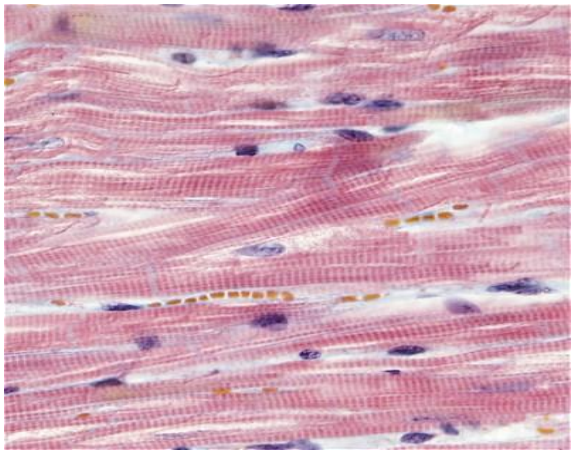
TEA TIME TRIVIA

1. Many staining reagents featured in Histology come from which industry?
   A) textile
   B) food
   C) mining
   D) financial

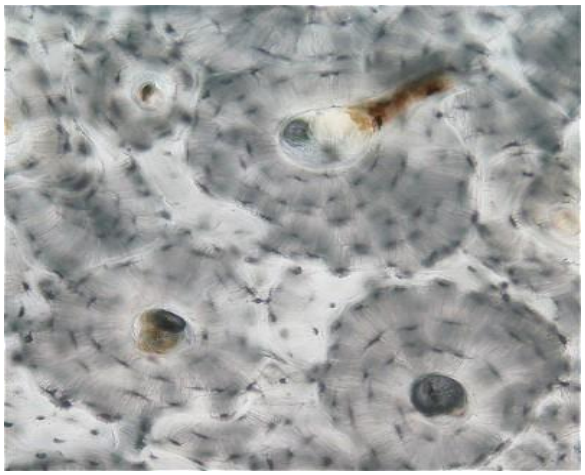
2. Which of these options is **not** an epithelial tissue?
   A) Simple columnar
   B) Psuedostratified squamous
   C) Compact
   D) Transitional

3. The word Histology was constructed by Karl Mayer in 1819 using the two Greek words ‘histos’ and ‘logos’ meaning what in English?
   A) ‘meat’ and ‘microscope’
   B) ‘stain’ and ‘study’
   C) ‘tissues’ and ‘study’
   D) ‘science’ and ‘body’

4. What kind of muscle is this?
   A) Skeletal
   B) Cardiac
   C) Smooth
   D) Smooth and Skeletal



5. TRUE or FALSE?
   This is a picture of cartilage.
   A) True
   B) False



ANSWERS

1. A
2. B
3. C
4. B
5. False, it is compact bone

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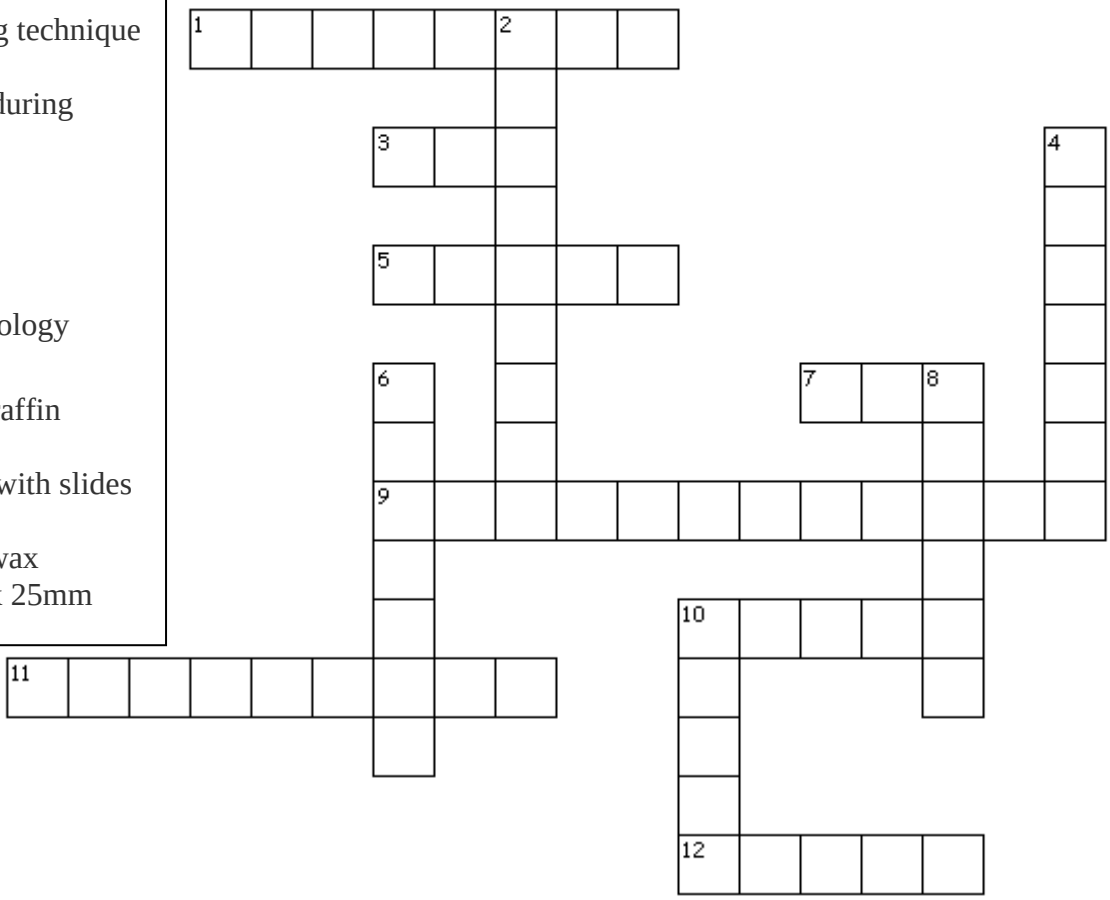
Histology Word Master

Across

1. The thing all slides and blocks are derived from
3. Abbreviation of a staining technique
5. Item of PPE
7. Replaces water in tissue during processing
9. Eosin's bestie
10. Used to visualise tissue microscopically
11. Study of tissue
12. Red dye, integral to histology

Down

2. Creates thin slices off paraffin blocks
4. Float them out to collect with slides
6. Dehydrating solution
8. Chemical miscible with wax
10. Glass, typically 75mm x 25mm



Had a recent exciting life event? While Histology is a fascinating science, it’s no less fascinating than the members that make it all work!

The HGVT wants to have a more wholesome representation of its members, and so we are asking for your photo contributions to present in future newsletters to highlight any good vibes you would like to share with the rest of the histology community.

Some ideas could include photos with your team, lab social events, marriages, babies, pets and anything you’ve achieved that you’d like to shine a light on. Don’t be shy, we’d be delighted to celebrate you!

Send your contributions to (editor@hgvt.org.au) with a caption and look out for yourself in future newsletters!

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Future Events: 2020

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July Workshop and Seminar Postponed

New Date and Program TBA

Venue Melbourne University

June 18th Cut-up presentation delivered online

Speakers: Kellie Vukovic (Uterus) and TBA (Placenta)

Venue: Streamed live and recorded using G-suite

Saturday (TBA) November

½ Day Educational Meeting

Venue- Tasmania Somewhere

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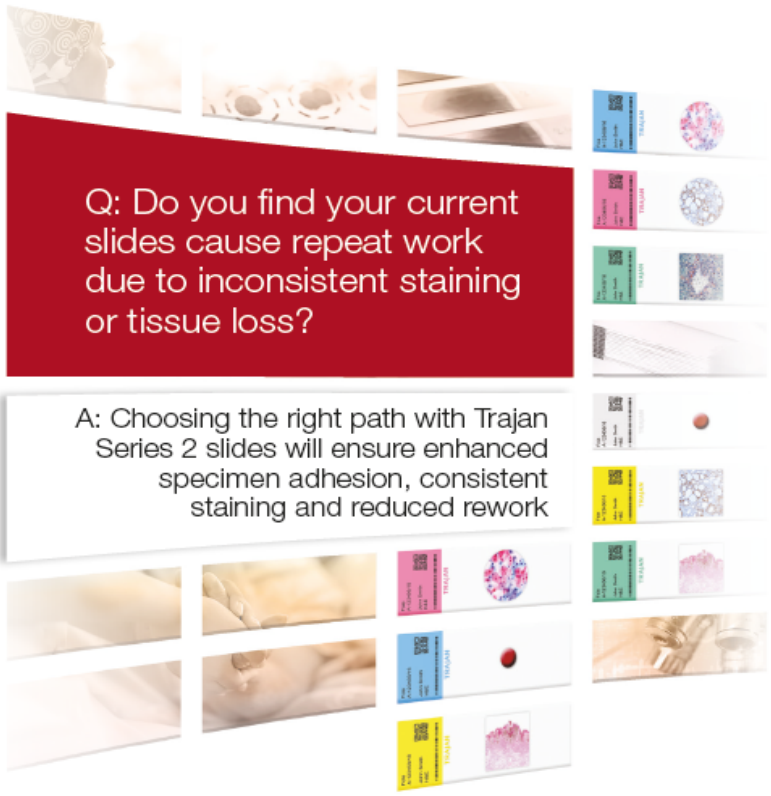

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