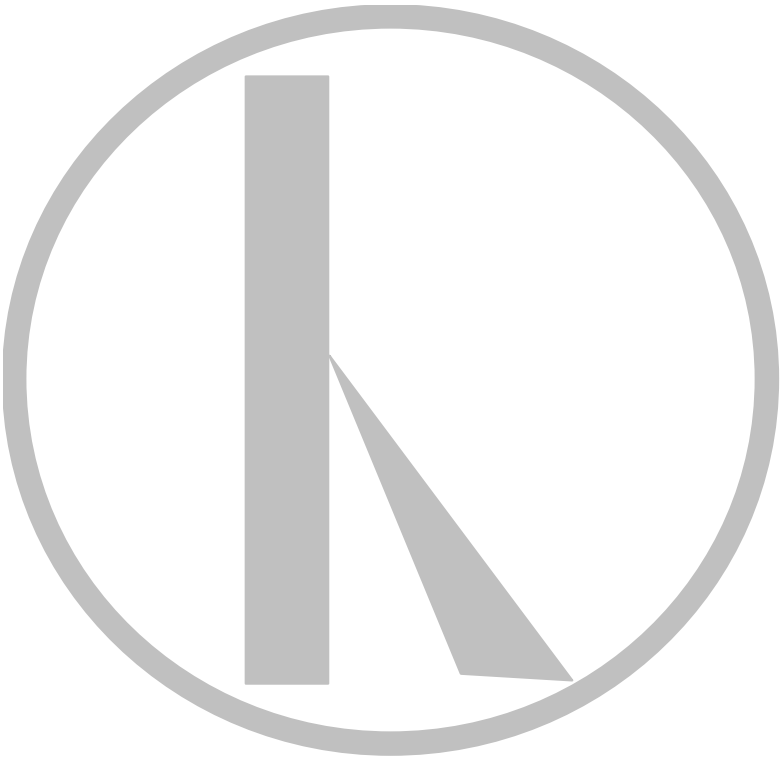
Histograph

ISSUE 2
June 2008



Newsletter of the Histotechnology Group of NSW

Contents

Editorial 2
Chairman's Report 2
Committee Members 3
The Burp that can Kill 4
Bone and Other Tough Tissue 5
New NATA Document to Accredit Us With 8
Have you heard about the child with the liver transplant who doesn't need any anti-rejection drugs? 11
Solvent Recycler for Sale 12
When I was a Lad 13
Mild Increase in Advertising Charges 14
Histo Vacancy 15
2009 National Histotechnology Groups Conference 18
Histotechnology Group of NSW Membership Application 20

Editorial

Hi all,
I hope you find interesting reading in this issue.
So less from me and see you at the AGM.

Tony Henwood,
Editor
anthonyh@chw.edu.au

Chairman's Report

Another successful meeting was held on the 15th of May at Douglas Hanley Moir Pathology. Grant Taggart prepared an excellent presentation on the "Surgical Cut-Up of Skin". Over 40 people were in attendance. Thank you to DHM for the hospitality and the light refreshments provided afterwards. A good night was had by all.

We have had some problems preparing a "Website" that we feel comfortable with and are now in the process of finalising an arrangement with a website specialist. This new website will be operational in the near future.

Our next meeting will see us involved in a 1 day symposium at the *Brain and Mind Research Institute*, Sydney University. This is being held on Saturday the 21st of June with 15 presentations revolving around Alzheimer's and Parkinson's disease.

This will be followed by our Annual General Meeting on Friday the 11th of July at the North Ryde RSL Club. Dr Vicki Howard will be speaking on ALOPECIA. Keep a note of this in your diary.

As this is the last *Histograph* before our AGM, we should thank the hard working members of our committee who have enabled us to present some excellent general meetings, the informative *Histograph* and the very successful meeting in Canberra last September.

We look forward to your continued support in the coming 12 months.

Trevor Hinwood,
Chairperson,
Histotechnology Group of NSW.

Committee Members

Chairman	Trevor Hinwood	trevor.hinwood@hdscientific.com.au	Product Specialist H D Scientific
Secretary	Kathy Drummond	kdrummond@dhm.com.au	Histology Lab supervisor DHM
Assistant Secretary	Dianne Reader	dreader@nsccahs.health.nsw.gov.au	Senior TO Anatomical Pathology RNSH
Treasurer	Lin Parkes	eyepoint2@bigpond.com	
Editor	Tony Henwood	anthonyh@chw.edu.au	Histopathology Lab Dept Head CHW
Trade Representative	David Jones	d.jones@zeiss.com.au	Zeiss
Committee	Amber Johns	a.johns@garvan.org.au	Garvan Institute
	Bill Sinai	sinai_family2@bigpond.com	Life Member
	Grant Taggart	gtaggart@dhm.com.au	Histology Lab Manager DHM
	Jeff Leaming	murmandamus@iinet.net.au	Symbion
	John Kazzi	jkazzi@nsccahs.health.nsw.gov.au	Histology Lab Gosford Hospital
	Julie Bilkey	juliebilkey@bigpond.com	Sydney Skin Pathology
	Margaret James	megajam@optusnet.com.au	Dutta Path
	Tamara Sztynda	tamara.sztynda@uts.edu.au	Lecturer UTS Dept Cell and Molecular Biology
	Liam O'Donnell	liam@sydneyskinpathology.com.au	Sydney Skin Pathology
	Margaret McLauchlan	mclauchlans@bigpond.com	
	Shaun Kay	skay@dhm.com.au	DHM

The Burp that can Kill

Have you ever exclaimed that if you eat another thing you would burst? Well it can happen. There are reports of distension of the stomach caused by gastro-duodenal obstruction leading to gastric rupture. There have also been reports of gastric rupture in scuba divers who had a rapid ascent from deep diving as well as resulting from artificial ventilation and ventilation by a laryngeal mask.

Kruse (2007) have described a case of rupture of the stomach caused by accidental ingestion of liquid nitrogen in a 28 year old man in previous good health. Attending a party where a so-called "Science Show" had demonstrated some entertaining use of liquid nitrogen, the patient having already had some "units" of alcoholic beverage, ingested liquid nitrogen in the intention of being able to produce an impressive burp. Immediately after, he got severe abdominal pain and increasing abdominal distension and he was admitted to hospital.

The patient underwent surgery to repair a four cm long laceration on the posterior gastric wall near the lesser curvature. On the eleventh postoperative day the patient had hematemesis and needed transfusion of 6 units of blood. Gastroscopy demonstrated stigmata of recent bleeding from the now significantly smaller upper ulceration and hemostasis was obtained after adrenaline injection followed by contact coagulation. The patient was discharged on the thirteenth postoperative day with proton pump inhibitor treatment for further 4 weeks.

Influenced by alcohol the patient had overheard warnings against ingestion of liquid nitrogen. It was not clear exactly how much he ingested, but the complications would indicate that it must have been more than just a teaspoon full of liquid nitrogen. It is estimated that one ml of liquid nitrogen on warming up to body temperature may release more than 600 ml of air. The immediate release of large amounts of air will lead to gastric rupture and air dissection via the hepatogastric ligament into the mediastinum and subcutaneously. The gastric lacerations healed after suturing and proton pump inhibitor treatment, but delayed severe bleeding occurred after 11 days.

Kruse, A., (2007) "Gastric rupture after ingestion of liquid nitrogen" Gastrosource
http://www.gastrosource.com

Bone and Other Tough Tissue

Penny Whippy, Senior Scientist, Anatomical Pathology, ACT Pathology

My enthusiasm for bone and tough tissue arose from my mentor, Mr Richard Hill. This keen interest grew to a passion after the AIMS conference in Hobart in 1997, because of a survey of 11 Victorian Laboratories covering their fixation, decalcification, processing, cutting and staining. The methods and results varied so much that I had to go back and attempt to optimise the results in my laboratory.

I invite you to share this process, and I hope you may be inspired to take a fresh look at bone and tough tissue.

Bone

The most common types of bone specimen to come into a routine Histo lab are:

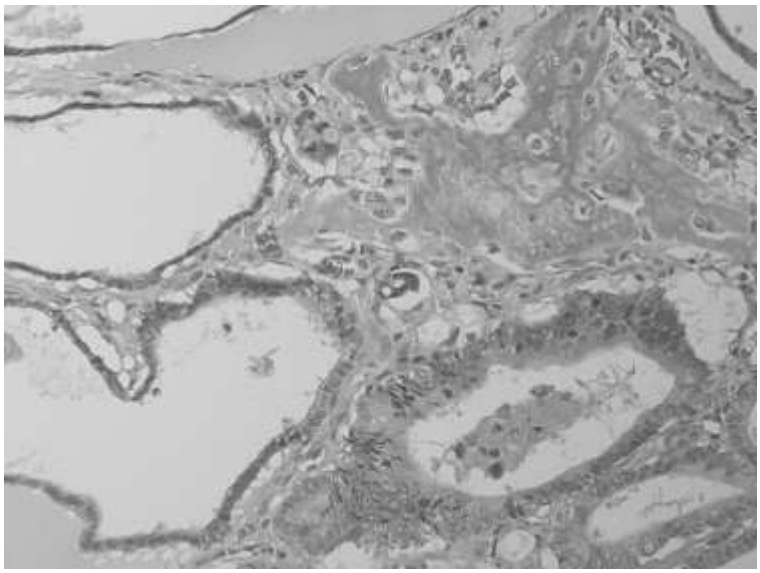
- Trephines
- Femoral Heads
- Mandibles, with or without Teeth, and
- Post Mortem Tissue

Fixation

All bony tissue **must** be thoroughly formalin fixed prior to decalcification (decal). Nuclear detail will be lost if the tissue is not properly fixed.

Routine neutral buffered formalin penetrates bone at about 1mm per hour and it is ideal for fixing cortical or dense bone, but you get the best fixation if the bone is cut into slices or biscuits before its set aside to fix. It is worth investing in a good saw to do this.

If there is soft tissue attached to the bone – like gum to a mandible – its best if the pathologist filets off the soft tissue and processes the soft tissue as a routine specimen. If the soft tissue goes through the decal process with the bone then it will have very poor morphology.



We use FAA, or Formalin, Acetic Acid, Alcohol for fixing bone cores and trephines because it fixes very quickly at 2mm per hour. Trephines only take 2 hours to fix.

Decalcification

This laboratory uses 5% nitric acid, 5% KOH, and/or RDO for the decalcification of bony tissue.

As Sulphuric Acid (RDO) will interfere with Redox based stains and cause failure with IHC staining; before any bone is placed in RDO it must be confirmed with a **pathologist** that this bone will **never ever** require Retics or IHC. These slices should be decaled in clearly labelled containers in a generous amount of decal solution.

Larger bony tissue such as femoral heads or mandibles should be sawn into 4mm slices prior to decal. The decal will happen at the pace below if the bone is sliced up into 4mm biscuits, and placed in a generous amount of decal solution, on a magnetic stirrer, and the solution is changed at regular intervals – every 12 hours or so. If the agitation doesn't happen, or the solutions aren't changed, the decal times will at least double. Putting the magnetic stirrer

inside an inverted truncated nylon tea strainer in a beaker of 5%Nitric Acid will keep the magnetic stirrer from metal-lidded cassettes.

Smaller bony/calcified tissue such as heart valves, trephines or ethmoid sinus need only a minimum of 2 hours formalin fixation. They can generally be decaled in white cassettes.

Decal protocols below are a guideline only and all specimens should be checked for softness by the **registrar** prior to processing.

Tissue	Decal Solution	Decal Time
Teeth	5% KOH	Up to 7 days
Finger Nails	1 - 5% KOH	5 mins - 7 days
Mandible - slices	5% Nitric acid /RDO	1-2 days
- cassettes	5% Nitric acid	1-2 days
Femoral head - slices	5% Nitric acid /RDO	1-2 days
- cassettes	5% Nitric acid	1-2 days
Osteochondroma - slices	5% Nitric acid /RDO	1-2 days
- cassette	5% Nitric acid	1-2 days
Heart valves	5% Nitric acid	2-5 hours
Ethmoid sinuses	5% Nitric acid	2-5 hours
Trephines	5% Nitric acid	2 hours

Bony nodules in soft tissue should be decaled with caution due to nuclear degradation; consultation with a **pathologist** is necessary.

All decal blocks should be highlighted on the worksheet or on a separate note.

Processing

Once the decaled tissue is checked and blocked it must be thoroughly **rinsed** in 3 changes of tap water for 2 minutes each. Decal, formalin and alcohol combine to form an insoluble deposit in the decaled tissue so the decal must be removed.

It is desirable but not essential that the blocks should start in the first alcohol (70%) in the processor.

Embedding

If the tissue feels at all bony to the embedder, it should be deprocessed and returned for further decal. If the tissue is satisfactory, it should be embedded with its narrowest profile face down. This will give the tissue better anchorage in the wax and avoid shelling out.

Cutting

Always cut on the heaviest microtome available in the lab; use a fresh blade, have the block cold but not brittle, bevel the edges to stop rolling, and pick up the section on a positively charged slide.

Approach all decal blocks with **caution**! Trim gently – even on a 4um setting if this feels necessary. If you feel uncomfortable with the block, hand it on to a more experienced microtomist or send it back for deprocessing etc.

We cannot “lose” bony tissue – it is **vital** for the pathologist to get a good section to give an accurate diagnosis for both the patients’ sake and medico-legal reasons.

Many decaled blocks can still be quite hard to cut; this may be due to islands of denser calcification or the connective tissue matrix of the bone.

For “crunchy” blocks - place in surface 5% Nitric Acid for up to 2 hours
For “tough” blocks - place in Molliflex (antifreeze) for up to 2 hours, or place in 1% ammonia solution for 10 minutes

Pick up sections on charged slides to maximize adhesion. Dry the slides for one hour prior to staining.

Staining

To regain lost nuclear detail, the sections must undergo nuclear retrieval:

1. Take sections down to water
2. Place in 5% Lithium carbonate for 5 minutes
3. Wash in running water for 5 minutes
4. Continue with routine H&E hand staining method, with no differentiation step!

- All acid based stains such as H&E will require the above pre-treatment.
- All redox based stains such as Retic require no such pre-treatment.
- IPX’s require no pre-treatment.

Tough Bits

Tough tissue doesn’t need any special consideration for fixation, it usually fixes quite quickly and quite well. Processing is also routine. Embedding needs to be done with a bit of thought. It makes life so much easier if the softest tissue leads the way to the blade.

Trimming

Trimming can be a problem if you don’t go slow and gentle. If the trimming is too quick or the blade grips and rips, you’ll get patches of white in the block. The best way to get a good section of a tough tissue is to soak the block in a softening solution. Connective tissue is very prone to over dehydration, so most softening agents are in fact rehydrators. There are a lot of commercial products out there, but they are mostly based on 1%Polyethylene Glycol or weak Ammonia.

1% Polyethylene Glycol or antifreeze rehydrates tissue rapidly and doesn’t compromise Histochemistry. It really isn’t suitable for fatty tissue because the fat will break down in the block and the cut section will explode on the water bath if the block is left in softener too long.

Weak Ammonia solutions in alcohol or aqueous will also rehydrate rapidly and not mess with the staining. But again fatty tissue will break down after the slightest overexposure.

Either of these solutions will work in 15 minutes or less; if they take longer, then the slides will need to be hand stained.

Cutting
This is pretty much the same as cutting bone – use a fresh blade, have the block cold but not brittle, bevel the edges to stop rolling, and pick up the section on a positively charged slide.

Staining

Because the block has been soaked in an alkaline solution it doesn’t really have any special needs for staining and can be popped on the automatic stainer with the rest of the days work. However, if the block was in softener for more than 15 minutes, then the slide will need to be hand stained, using a shorter time in haematoxylin and longer in eosin than you would normally do.

Coverslipping

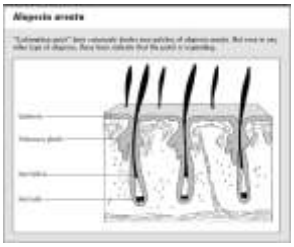
Automatic coverslippers are fairly gentle but some people may prefer to hand coverslip a slide that has had a long exposure to softener in case the section smudges.

HISTOTECHNOLOGY GROUP of NSW

ABN 63 128 863 348
nswhistogroup@bigpond.com

ALOPECIA – TECHNICAL AND CLINICAL APPLICATIONS

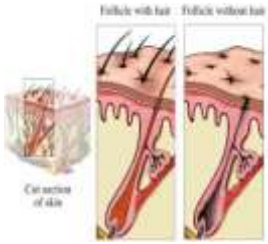
PRESENTED BY



DR VICKI HOWARD - DERMATOPATHOLOGIST
DOUGLASS HANLY MOIR PATHOLOGY

Annual General Meeting (nominations have been received for executive positions; new committee members welcome)

Cocktail food (beverages not included)



Date: **Friday 11th July, 2008**
Where: **North Ryde RSL**
Pittwater Function Room
Magdala Rd, North Ryde
Time: **6:30 pm**

RSVP: **7 July, 2008**
for catering purposes
to PO Box 496,
Guildford. 2161.

or
kdrummond@dhm.com.au
or

fax attn: Kathy Drummond 9855 5169.

Come and hear a great speaker. Come and have your say in the running of your group.

New NATA Document to Accredit Us With

(Oh I hope it won't be too Painful!)

AS 4633 (ISO 15189) Field Application Document - Medical Testing,
Supplementary requirements for accreditation, August 2007

NATA have issued a document that provides an explanation of the application of ISO 15189 to the various disciplines of pathology testing and also a description of the NATA/RCPA accreditation procedures applied in this field. Medical Testing laboratories must comply with this document, all relevant clauses of ISO 15189, the NATA Rules, NPAAC standards and relevant statutory requirements for accreditation to be granted and continued. This document also provides interpretive detail of the NPAAC standards.

I will try and highlight those items that pertain to Histopathology.

- After a laboratories first accreditation, in order to ensure continued compliance with these requirements, the first reassessment is scheduled to be undertaken two years following the initial assessment. Reassessments are then generally carried out every three years.
- Unscheduled assessments may be conducted to investigate a complaint that casts doubt over the laboratory's continuing compliance with the accreditation requirements. They may also be undertaken after substantial changes to the staff, other resources or procedures, when a change to the scope of the accreditation is sought, or to ascertain the validity of concerns about a laboratory's activities. At such assessments, specific activities may be targeted for review rather than the entire laboratory operation. The Board has the right to direct that a reassessment be conducted, with or without notice, at any time.
- Expiry dates of materials must be recorded in addition to the other details listed in the Standard.
- Staff who work only 'out-of-hours' must have regular contact with routine and in particular, supervisory staff. The time allocated must be sufficient for the staff member to update all skills required for the out-of-hours service. Records of the time spent in the laboratory during routine hours must be kept and must be sufficiently detailed to demonstrate compliance.
- Ongoing competence must be maintained:

1. Where staff are expected to work in areas other than those in which they would normally work (e.g. when on call or working on a weekend); and
2. Where tests are performed infrequently.

- The minimum requirements for labelling samples are two identifiers attributable to the patient. Generally these will be patient's full name and either date of birth or medical record number. Samples which are not labelled with two identifiers are considered to be inadequately labelled.
- There must be a policy for the introduction of new methodology. Appropriate records of validation/verification studies must be kept and be available for review at assessment. The results

of these studies must be evaluated and the method authorised for use prior to introduction for patient testing. Evidence of this evaluation must be available. The documentation of the validation/verification process should include a description of the studies carried out, the results obtained, comments concerning the suitability of the method for use in the laboratory and any relevant limitations of the method.

1. Where necessary, control slides must be performed with special stains. Control slides must be retained so that they can be retrospectively linked to the patient slides to which they pertain.
2. The identification of samples must be secure through all stages of processing. Examples of procedures that may be employed to minimise the risk of sample mix-up are:
   - checking of stained sections against the corresponding block prior to reporting;
   - checking slides and blocks against the details on the request form prior to reporting;
   - handling one case at a time (e.g. at microtomy); and
   - labelling slides and cassettes for one case at a time.

Calibration of common test equipment:

Item of Equipment	**Calibration interval (years)**	**Checking interval (months)**	**Procedures and references**
Balances	3		NATA Accredited Laboratory or as described in Calibration of Weights and Balances by EC Morris and KMK Fen.
		12	Service. Where the laboratory can demonstrate that the balance is used in a suitable environment (e.g. dust free, chemical free) AND results of user checks consistently demonstrate good performance and reliability, the 12 month check may be waived.
		6	Repeatability check. NATA Technical Note 13
		1	One point check at a weight point in common use. NATA Technical Note 13
		Each weighing	Zero point check. Note 1: Balances with in-built calibration check facilities must also have monthly and 6 monthly checks carried out. Note 2: Electronic balances with more than one range must have monthly and 6 monthly checks carried out on all ranges.
Piston operated volumetric apparatus (pipettes)		Initial (prior to use)	Check volume delivered. AS 2162.2-1998
		3	Check the volume delivered at the settings in use*. Where a multi-channelled pipette is used, at least two barrels must be checked every three months with the channels rotated so that all channels are checked within a twelve month period.

Have you heard about the child with the liver transplant who doesn't need any anti-rejection drugs?

When the liver of a patient is damaged enough to lose its ability to keep a patient alive, often the only course is to remove it and replace it with a donated liver. After a transplant, the patient needs to continue to take immunosuppressive medication so as to prevent rejection of the liver. Unfortunately this immunosuppression leaves the patient open to infection that can be mortal. Management of the transplant patient is often a fine balance between preventing rejection on the one hand and preventing mortal infection on the other.

The prolonged use of immunosuppression drugs can eventually cause death due to cardiovascular disease or cancer. Liver transplantation recipients experience and succumb to the same afflictions of old age as non-transplant patients, but with greater frequency and at an earlier age (Sethi & Stravitz 2007).

The achievement of complete tolerance of a grafted organ has been a major goal of transplantation research, but in clinical practice, it has been limited by the development of severe graft-versus-host disease and complications related to induction regimens. Alexander et al (2008) have described an amazing case of complete tolerance of a liver transplant.

A nine year old girl had acute fulminant hepatitis after a non-specific viral illness and was referred to the Children's Hospital at Westmead. A diagnosis of "non–A-to-G viral hepatitis" was made. Her blood group was O, RhD-negative. Because of the patient's fulminant hepatic failure requiring mechanical ventilation, urgent liver transplantation was performed with the use of a whole-organ transplant from an O, RhD-positive 12-year-old male donor who was positive for cytomegalovirus (CMV) (the recipient was also CMV-positive) and who died of hypoxic brain injury (Alexander et al 2008).

Initial standard immunosuppressive therapy after liver transplantation consisted of tacrolimus, intravenous methylprednisolone, and intravenous azathioprine. Other medications included intravenous ganciclovir for CMV prophylaxis and antibiotic therapy. 33 days after transplantation the patient was sent home with tacrolimus and prednisone. Two weeks later this remarkable girl (as they all are) was readmitted with fever and chest pain. An oesophageal biopsy showed positive CMV cells with IPX staining. This esophagitis was successfully treated and the patient was returned to anti-rejection maintenance.

Nine months after transplantation, a small bowel obstruction developed, requiring surgical division of adhesions and resection of an ileal band. Routine preoperative blood grouping revealed that the patient's blood group had changed from O, RhD-negative, to O, RhD-positive, the donors blood group. Ten months after transplantation, after a mild upper respiratory tract infection, anaemia (haemoglobin level, 64 g per litre) caused by severe haemolysis developed in the patient. The liver function tests remained normal. This hemolysis was due to the production of antibodies by residual B lymphocytes in the recipient against engrafted erythroid cells from the donor. The decision was made to withdraw the

immunosuppressive therapy. Following this she engrafted fully with the donors cells. This case is unique because while cells from the donor liver have been known to engraft usually this leads to life threatening graft versus host disease which did not happen in her case.

In this remarkable girl a spontaneous switch occurred in the blood group and—because the donor was male—the sex of the circulating leukocytes. Impressively, the removal of immunosuppressive drugs, which was undertaken to resolve hemolytic anemia in the patient, resulted in complete chimerism (meaning that all hematopoietic cells were of donor origin) and long-term acceptance of the grafted liver (Simpson 2008).

The patient remains well 5 years after transplantation. She has not received any immunosuppressive therapy for 4 years, and the results of her liver-function tests are normal.

References

Alexander et al (2008) N Engl J Med 358(4):369-374.
Sethi & Stravitz (2007) Aliment Pharmacol Ther 25, 229–245
Simpson (2008) Science 319: 1013.

Solvent Recycler for Sale

One B/R Spinning Band Solvent Recycler for sale.
Model: 8400/M490
Excellent Condition
Includes:

- Microprocessor controller
- Recirculating water cooling unit
- Spare Pot Flask (for ethanol recycling)
- Manual

Price $15,000 ono

Contact Tony Henwood (02) 9845 3306
Histopathology Dept
The Children's Hospital at Westmead

When I was a Lad

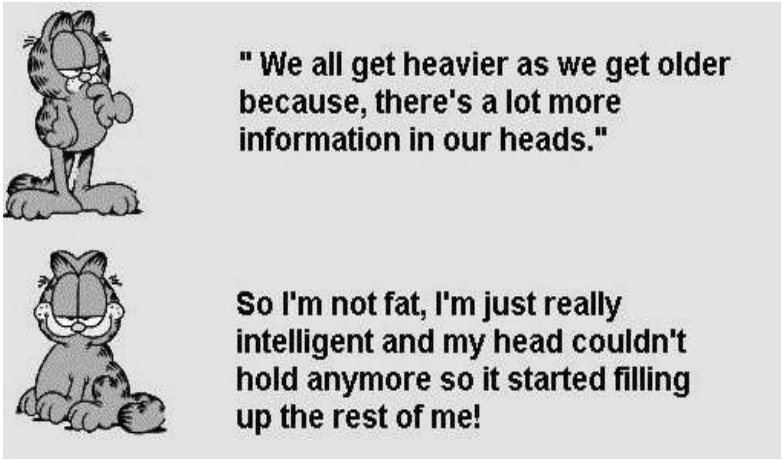
From Histonet

"When they first opened a pathology lab here (30+ yrs ago) the histology lab was in a former bathroom. You could do gross, put it in the processor, embed, cut, and stain just by swivelling the chair around. And you had to go through the pathologist's office to enter and leave the "lab"...and he was quite a bear in those days!!" *Angie Barnett*

When I was a lad we used an electric iron as a hot plate and a toaster to dry the slides in, and warm up our meals, and dry our wet clothes on top of the autoclave never did me any harm! *R.E. Edwards*.

Back in 1971, when I was a student, we were in one room with two windows on the same side of the building so there was no cross ventilation. The box fan was propped up in the window in front of the docs when they grossed blowing out, winter or summer. I still remember going home so "high" from the xylene fumes that it took about 30 minutes to come around. Never remembered driving home and if I ever went through a red light or not!!! Some guardian angel, huh!! *Lynette Pavelich*,

45 years ago (coming this July 18th) when I began training (I was 2 at the time :)), it was in the basement of the hospital in the animal room where they used to keep the rabbits for the pregnancy tests, no windows, not much ventilation if any, and we dried our slides with a hair dryer (yes they had those back then) and we stored all the specimens in jars of formalin in the closet next to that room, so now you know why I am defective, or is it just fixed. Xylene fumes, I can't smell anymore and my liver enzymes run high, not me. Oh well that could be from the wine consumption. My salary at that time would not buy groceries today for a week and gas is out of the question. Call me an antique, not old. *Shirley Powell*



My first 'job' was a volunteer in my last semester in high school in 1965. I volunteered to take on a "'work-study" job in the anatomic pathology dept. at UCLA. The job was to change the tops on 6000 (that's right 6K) pint bottles of saved autopsy tissue dating from the 1950's. (Study was whatever I could learn by observation while working). The tissues were saved in Mason jars with metal tops and, you guessed it, the tops had corroded and most of the formalin had evaporated. You can imagine that took me all of that semester and part of the next summer to complete. We had no ventilation in the storage room at all so exposure was constant. Not to mention that occasionally a jar would fall off the back of the shelf and

break on the floor. It was a nasty job, but endeared me to the histology staff so they hired me part time as a lab aid to dump tissues, move paraffin blocks and slides, make stains, etc, etc. I worked there through college. We also used chloroform for clearing on the Technicon Duo processors and filled gallon bottles by pumping out of a 55 gallon drum. Got high a few times (no ventilation in the storage room either of course). We didn't wear gloves except when doing autopsies and no hoods for coverslipping. They call these the good ol' days, but I have always questioned that rationale. *Mickie Johnson*

We had a gallon bucket of xylene mixed with acetone to clean the cassettes in. I spilled it once - in a corner - got drunk as a skunk cleaning it up. I was always zoned out on xylene in those days and didn't even know to enjoy it! I had to sharpen knives on the AO sharpener with the wheel and the powder. My first child did flips when I stood there with her pushed up against that thing while I was pregnant. It's a wonder she can hear today! *Joyce Weems*

I've gotten some interesting, funny, and scary stories about Ye Olde Days. As one of my old bosses used to say, "If I'd known I was going to live this long, I'da taken better care of myself." Too bad all these stories about how we used to do things put us at risk! This should be a lesson to all the newbies out there to wear gloves, masks and question stuff, right? We shouldn't be afraid of what we do, just very cautious of what might come back to bite us. For example, one of my first jobs while training was changing the Technicon Duo - the dioxane vats. Aargh! *Sally Breeden*,

I actually caught a Cardiology Fellow trying to embed mouse heart tissue from formalin into paraffin. He wanted me to tell him what to do with the formalin when he was finished. He said he was trying to save the department research money by skipping the processing step. This was in a major Boston institution labelled as within the "top 3" in the country! Takes all kinds *Denise Woodward*,

Mild Increase in Advertising Charges

After several years we have decided that a modest increase in advertising charges is warranted. The committee decided that the new prices be:

A4 PAGE - PRINTED COPIES SUPPLIED BY ADVERTISER
1 or 2 sides..... $75.00

A4 B&W PAGE - PRINTED IN THE JOURNAL
1 A4 page $100.00

A4 COLOUR - PRINTED IN THE JOURNAL
1 A4 page $300.00

Histo Vacancy

Laboratory Assistant/Technical Officer - Veterinary Histopathology
Veterinary Pathology Diagnostic Services
Faculty of Veterinary Science, University of Sydney
Reference No. 129699

The Faculty of Veterinary Science, recognised internationally for its key contributions to best practices in the care and welfare of animals, is a world-class facility for student learning and research excellence.

The Faculty's Veterinary Pathology Diagnostic Services unit is currently seeking a motivated Laboratory Assistant (HEO3) or Technical Officer (HEO4) to join our highly regarded team. The successful applicant will assist in the work performed in the histopathology laboratory including setting up of practical classes and producing quality stained histological slides for teaching, research and diagnostic purposes.

For appointment at HEO Level 3, Laboratory Assistant, you must have the skills and experience in basic laboratory biological and safety procedures including making up solutions, handling chemicals and washing up. Good communication and interpersonal skills are also essential as is ability to work with formalin fixed tissues and a wide range of chemicals. Enrolment in or willingness to enrol in a TAFE or equivalent course in laboratory techniques and methods will be highly regarded.

For appointment at HEO Level 4, Technical Officer, you must have prior histology laboratory experience, and have completed, or be close to completion of, a TAFE or equivalent course in laboratory techniques and methods. You will also be able to demonstrate strong organisational skills, the ability to work in a busy and diverse team environment and the capacity to exercise initiative and prioritise to meet competing demands.

Record keeping skills combined with high attention to detail and awareness of issues associated with commercially sensitive information are required for appointment at either level.

This role provides a fantastic opportunity to build career experience and advanced scientific skills in veterinary pathology as well as acquire specialist immuno-histological expertise. It also allows for designated study time towards a completion of a relevant TAFE qualification if required.

The position is full-time fixed term fixed term for one year, subject to the completion of a satisfactory probation period for new appointees. There is a possibility of further offers of employment, subject to funding and need. Membership of a University approved superannuation scheme is a condition of employment for new appointees.

Remuneration package: $49k - $54k for Laboratory Assistant, HEO Level 3, or $56k - $59k for Technical Officer, HEO Level 4 (which includes a base salary, leave loading and up to 17% employer's contribution to superannuation).

Contact Mr David Griffin, VPDS Laboratory Manager, on (02) 9351 3099 or by email on D.Griffin@vetp.usyd.edu.au. Alternatively, contact Ms Elaine Chew, Head of the Histopathology Laboratory, on (02) 9351 3188 or by email on e.chew@vetp.usyd.edu.au

Safe Storage of Acids and Flammables

Allen A. Smith, Professor of Anatomy at the Barry University School of Graduate Medical Sciences, Podiatric Medicine and Surgery Miami Shores, Florida, posted the following on Histonet and it is probably timely that we review our incompatibles and their storage in our labs.

Nitric, sulphuric, and perchloric acids should be kept separate from organic compounds. They can form very dangerous reaction products. Hydrochloric acid is best kept with the other mineral acids; although it can react nastily with nitric acid. It also reacts nastily with formaldehyde. For storage, formic and acetic acids should be treated as organic compounds rather than acids. They can react violently with oxidizing mineral acids. Their organic reactions are gentler. I like to keep my acids in high-density polyethylene cabinets. Hydrochloric and nitric acids tend to rust out the metal ones and a drop of sulphuric acid running down the side of the bottle can make an unholy mess of a wooden cabinet.

The following incompatibilities of common acids and flammable liquids have been gleaned from their relevant MSDS's:

Acetone - Is incompatible with concentrated nitric and sulphuric acid mixtures, oxidizing materials, chloroform, alkalis, chlorine compounds, acids, potassium t-butoxide.

Ammonia (anhydrous) (27 - 31%) is incompatible with mercury, chlorine, calcium hypochlorite, hydrofluoric acid (anhydrous), bromine pentaflouride, chlorine trifluoride, strong acids, strong oxidizing agents, brass, zinc, aluminium, copper, bronze, most common metals and dimethyl sulphate. Reacts

with hypochlorite or other halogen sources to form explosive compounds that are sensitive to pressure or increases in temperature. Reaction with sulphuric acid or other strong mineral acids is exothermic; mixture becomes boiling hot.

Hydrochloric Acid (37%) - Do not allow water to enter container because of violent reaction. Incompatible with bases, amines, alkali metals, copper, copper alloys, aluminium.

Hydrogen Peroxide (30%) - Protect from light. Incompatible with brass, copper, copper alloys, finely powdered metals, galvanized iron, iron and iron salts.

Iso-propanol is incompatible with strong acids, strong oxidizing agents (e.g. nitrates, perchlorates, peroxides), halogens, aluminium, iron salts, and active halogen compounds.

Methanol - May react violently with acids, acid chlorides, acid anhydrides, oxidizing agents, reducing agents and alkali metals.

Ethanol is incompatible with strong oxidizers, chromic anhydride, lead perchlorate, and perchloric acid.

Acetic Acid (Glacial) is incompatible with strong caustics and strong oxidizers such as chromic acid, sodium peroxide and nitric acid. Contact with strong caustics will cause violent spattering. It is also incompatible with carbonates, hydroxides, many oxides and

phosphates. It causes exothermic polymerization of acetaldehyde. It may have violent or explosive reactions with oxidants such as BrF_5 or $KMnO_4$. It also reacts with potassium tert-butoxide. It is incompatible with bases. This compound reacts with ammonium nitrate, hydrogen peroxide, nitric acid and acetone, perchloric acid, permanganates, phosphorus trichloride and KOH. It also reacts with NaOH and n-xylene. It attacks most common metals, including most stainless steels. Aluminium is attacked slowly with the formation of oxide.

Nitric Acid – Incompatible with strong bases, strong reducing agents, alkalis, most common metals, organic materials, alcohols, carbides.

Glutaraldehyde (25%) - Incompatible with strong bases, strong acids, strong oxidizing agents.

Glycerol - Incompatible with perchloric acid, lead oxide, acetic anhydride, nitrobenzene, chlorine peroxides.

Sulphuric Acid - Substances to be avoided include water, most common metals, organic materials, strong reducing agents, combustible materials, bases, oxidising agents. Reacts violently with water - when diluting concentrated acid, carefully and slowly add acid to water, not the reverse. Reaction with many metals is rapid or violent, and generates hydrogen.

Dimethylformamide - Incompatible with bromine, carbon tetrachloride, chromic anhydride, 2,5-dimethylpyrrole, phosphorus oxychloride, hexachlorobenzene, magnesium nitrate, methylene diisocyanate, phosphorus trioxide, triethyl aluminum, organic nitrates, acidic and alkaline materials, and other halogenated compounds. Contact with iron or strong oxidizers may cause fires and explosions; may react violently with alkyl aluminiums. Methylene diisocyanate can polymerize violently on contact with DMF.

Xylene – Keep separate from strong oxidizing agents, concentrated sulphuric acid, nitric acid, uranium hexafluoride, sulphur.

Formalin (37%) – Incompatible with powerful reducing agents. Reacts with acids, bases and metal salts.

2009 National Histotechnology Groups Conference

Date 8-10th May 2009

Venue Adelaide, South Australia

Workshop 1	Workshop 2
Dr. Craig James	**Dr. John K C Chan**
Surgical Grossing Of Skin Specimens	**Immunohistochemistry - Technical And Interpretation Pitfalls**

Keynote Speakers

Dr J K C Chan – Immunogenetics Of Tumours, Achieving New Heights By Immunohistochemistry

Dr J Robin Warren – How A Lifetime's Work With Helicobacter Pylori Led To A Nobel Prize In Medicine

Friday 8th May	**10:00**	**Workshop 1**
	13:00	**Workshop 2**
	18:30	**Trade Opening with Cocktail Party**
Saturday 9th May	**09:00 - 17:00**	**Plenary Sessions**
	18:30	**Pre-Dinner Drinks**
	19:30	**Conference Dinner**
Sunday 10th May	**09:30**	**Plenary Sessions**
	14:00	**Finish With Late Lunch**

Histo at James Cook

I recently had the opportunity to visit the Histology department in the School of Veterinary and Biomedical Science at the James Cook University in Townsville on the invitation of Laurie Reilly.

The workload of this university department includes teaching, research as well as diagnostic veterinary histopathology. Did you know that one of the more common skin lesions in dogs are mast cell tumours? So the simple toluidine blue stain is routinely done.

The design of the teaching laboratories is first class. The lighting is strong, even and cool. The benches are wide with a more than generous space in between. The influence of Leigh Winsor (arguably Australia's pioneer in Histotechnology Laboratory Safety) can definitely be seen in the design with for example bench level fume extraction. For those who know Leigh will be pleased to know that he is the University's Occupational Health and Safety Officer. There is a well designed island-type cut-up bench that allows full view on three sides. The down-draft extraction system uses activated carbon filters. Interestingly, though extremely efficient for formalin, Laurie has found them to be less so for acetic acid containing fixatives such as Davidson's, which is used by the marine histotechnologists for fixing crustaceans.

Laurie teaches Histotechnology in a four week block. Students do an autopsy (usually on a sheep) and collect samples for processing. They then embed, section and stain the slides, finally reporting their findings. They do this complete process four times.

Laurie has a wide range of equipment from different suppliers for students to experience. The aim is for students to appreciate the vagaries of each family of instruments (similar to driving a Ford, Holden and Mini Moke). Laurie also uses an ancient microtome that seems to be pre-World War II and made by Baird and Tatlock. There is also one microtome that has had a visit to the panel beaters after falling from a trolley (it deserves to have GT stripes!).

Other innovations that Laurie has introduced include using an electric frypan as a floatation bath ($60 verses $1,300) as well as an ingenious holder for used microtome blades that can be used at cut-up. This holder is a lot safer and easier to use than others on the market. They have been designed by Laurie and made by one of the University's instrument makers. I hope that this design is patented because I am sure that many labs would be very interested.

Lastly, Laurie showed me a reasonably large tree planted outside the school's main building. It looked familiar and yet the name escaped me. Laurie remarked that it was over 19 years old and is in fact Haematoxylon campechianum, the famous Haematoxylin tree.

Thanks Laurie for the experience and hope to see you at the next National Meeting.

Histotechnology Group of NSW Membership Application
NOW DUE !!!

2008 - 2009

I wish to become a member of the Histotechnology Group of N.S.W. and enclose

PLEASE TICK

- ☐ $38.50 for annual subscription of $35.00 and $3.50 GST.
- ☐ $16.50 for student subscription of $15.00 and $1.50 GST
  (Full-time or working toward first qualification)
- ☐ $82.50 for company subscription of $75.00 and $7.50 GST
  (2 representatives, one of whom must be a NSW representative)
- ☐ RENEWALS ☐ ANY CHANGES TO PREVIOUS DETAILS.

PLEASE PRINT ALL INFORMATION.

SURNAME_____ GIVEN NAME_____

TITLE: MR, MRS, MS, DR, MISS. (Circle one)

OCCUPATION_____POSITION_____

INSTITUTION_____DEPARTMENT_____

ADDRESS for CORRESPONDENCE:

STREET/P.O.BOX._____

CITY,TOWN,SUBURB,_____POSTCODE._____

IS THIS ADDRESS HOME OR BUSINESS ? (Circle One).

PHONE No. WORK_____ EXT_____ HOME_____

E-MAIL ADDRESS: _____

2ND COMPANY CONTACT

SURNAME_____ GIVEN NAME_____

TITLE: MR, MRS, MS, DR, MISS. (Circle one)

POSITION_____ INSTITUTION_____

ADDRESS STREET/P.O.BOX._____

CITY,TOWN,SUBURB,_____POSTCODE._____

PHONE No. WORK_____ HOME_____

E-MAIL ADDRESS: _____

SIGNATURE_____**DATE**_____

RETURN TO:

SECRETARY
HISTOTECHNOLOGY GROUP of N.S.W.
P.O. BOX 496
GUILDFORD NSW 2161

Office use only