

**DEPARTMENT OF ORTHOPAEDIC SURGERY,
NATIONAL UNIVERSITY OF SINGAPORE**



DECEMBER 2019 : Issue 18

TREE OF ANDRY



SAFETY NEWSLETTER

Special points of interest:

- DEPARTMENT SAFETY & HEALTH OBJECTIVES & PROGRAMME
- NUSSHA AUDIT
- TWSH PROGRAMME
- SPECIAL WELLNESS FOCUS
- NUS/OSHE SAFETY & HEALTH NEWS

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2019 Department Safety & Health Objectives & Programme

2019 Department Safety & Health Objectives						
	Objective	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Current Status/ Remarks
1	To achieve zero reportable accident/incident which result in high impact incident such as those: A. Subjected to Committee of Inquiry B. Resulting in punitive measures by regulator C. Resulting in financial loss > \$500K	✓	✓	✓	✓	Completed
2	All new staff and students to complete safety induction within 1 month of commencing duties.	✓	✓	✓	✓	Completed
3	To conduct 2 Total Workplace Safety & Health (TWSH) activities to provide a more holistic safe and healthy workplace		✓		✓	Completed

2019 Department Safety & Health Programme							
	Objective	Responsible	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Current Status/ Remarks
1	Organize 4 safety, health & wellness activities to serve as an avenue to raise awareness of safety, training and total health and wellness for staff & students	Department Safety & Health Committee	DSHC & Research Admin Meeting (19/02)	- DSHC & Research Admin Meeting (15/05) - Macritchie Walk (28/06)	- DSHC & Research Admin Meeting (31/07) - BCP Sharing (31/07)	- DSHC & Research Admin Meeting (06/11)	Completed
2	Participate in safety & health related activities organized by University/ Faculties & other organizations/ institutes	Staff and Students	-	-	- 4th SHE Conference (04/07) - Environment Roadshow (15/08)	- NUSMed Campus Walk (22/11) - NUSMed Best Practice Sharing (26/09)	Completed
3	To conduct emergency response exercises to familiarize staff & students with emergency procedures not limited to: a) Internal Fire Evacuation Drill b) Chemical & Biological Spill training c) First Aid emergency response	Department Safety & Health Committee & Safety Leads	- ODC Fire Drill (18/01) - MD11 fire drill (21/03)	- First Aid Talk (15/05) - NUHS Fire Drill (08/05) - Chemical & Biological Spill Exercise (22&22/05)	NUSTEP Fire Drill (03/07)	Chemical & Biological Spill Exercise (27/09)	Completed
4	Conduct workplace safety inspections/audits once a year	Department Safety & Health Committee	-	Cross Dept. Audit (03/04)	- Internal Inspection & Audits (July to Sept) - Cross Dept. Audit (18/09 & 21/10) - NUSSHA Audit (16/10)		Completed
5	Review workplace safety performance once a year to ensure continual improvement	Head of Department	Ongoing	Ongoing	Ongoing	Management Review (06/12)	Completed
6	Workplace safety lead to conduct safety induction training to new staff and students	Safety lead & Safety Coordinator	Ongoing	Dept. Induction & Quiz (09/04 & 27/05)	Dept. Induction & Quiz (27/08)	Dept. Induction & Quiz (12/12)	Completed

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CROSS DEPARTMENT AUDITS (APRIL, SEPTEMBER & OCTOBER 2019)

In preparation for the NUSSHA Audit 2020, Department of Orthopaedic Surgery, Biochemistry and Anaesthesia cross-audited each other Safety Management System (SHMS). Each department allocated some auditors who provided their feedbacks after reviewing the documentations submitted and learnt from each other to improve their current DSHMS.



**Department of Anaesthesia
Cross Audit on 03/04/2019**



**Department of Orthopaedic Surgery
Cross Audit on 18/09/2019**



**Department of Biochemistry Cross Audit
on 16/10/2019**

NUSMED BEST PRACTICE SHARING SESSION (SEPTEMBER 2019)

The best practice sharing session in NUSMed is a very useful platform especially for staff who would like to embark on Continuous Improvement Project. They will know who to get support and guidance from.

Our department was invited to share our best practices in the NUSMed best practice sharing session conducted on 26 September 2019 @ MD3-02-01.

LEARN FROM COLLEAGUES HOW YOU CAN IMPROVE YOUR WORK.
SIGN UP FOR THE **BEST PRACTICES SHARING SESSION**.

FEATURING:

1. Safe and Proper Use of Personal Protective Equipment (PPE) (Medicine)
2. Tree of Andry – a Safety & Health Canopy (Orthopaedic Surgery)
3. Use of audio/video instructions for the OSCE (DGMS)
4. OSCA Improvement Project (DGMS)



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NUS SAFETY & HEALTH AWARD (NUSSHA) 2020 (OCTOBER 2019)

Our department registered its interest to participate in the NUSSHA 2020 in December 2018. Hence, our Department Safety and Health Management System (DSHMS) was audited on 16 October 2019 by auditors from Office of Safety, Health & Environment (OSHE)



The two auditors explaining to us the NUSSHA auditing process

What is this chemical doing here?



Paiseh!!! The auditors are very thorough this year !!!

Lab visit by auditors after the documentation review



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CHEMICAL SPILL RESPONSE EXERCISE FOR NEW GRADUATE STUDENTS (SEPTEMBER 2019)

Scenario 1: A small bottle of 10% formalin was accidentally dropped while removing from the corrosives cabinet. Broken bottle, spillage 100 ml formalin next to corrosives cabinet.
Scenario 2: A small bottle of 37% HCL accidentally dropped while bringing it to the fume cupboard. Broken bottle, spillage 50 ml HCL near fume hood.



Alert others & put spill warning signage

Check SDS, prepare spill kit & appropriate neutralizers

- Surround the spill using absorbent pad.
- Dispose broken bottle into sharp box using a tong



- Removal of contaminated PPE after cleanup
- Disposal of waste & labelling of chemical waste as per SOP



Use a tong and absorbent pad to do the final clean up to ensure that no residual neutralized chemical is left behind



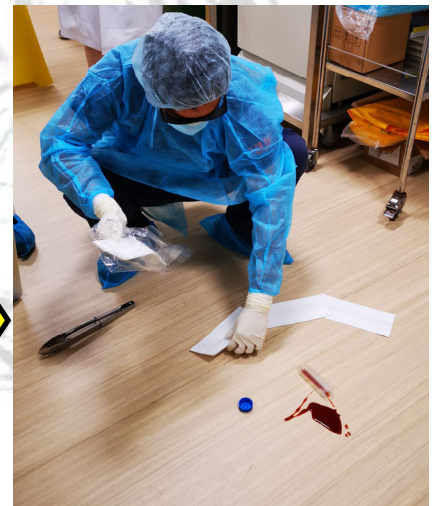
- Put neutralizer onto spill from outer edge to center of spill and sweep the neutralized chemical



File report through AIMS

BIOLOGICAL SPILL RESPONSE EXERCISE FOR NEW GRADUATE STUDENTS (SEPTEMBER 2019)

Scenario 1: Human Bone Marrow leakage from centrifuge tubes during centrifugation
Scenario 2: Spillage of bone marrow from collection tube in the lab corridor



Surround the hot zone of the spill using tissue



- Pour disinfectant solution from outer edge and inwards
- Allow disinfectant to settle for 30 minutes & use tongs to clean up spill



Alert others by putting spill warning signage

Don PPE while allowing aerosol to settle for 30 minutes



Removal of contaminated PPE after cleanup and disposal of contaminated biohazard waste



Final Cleanup and disposal of contaminated waste into the biohazard bag

 **File report through AIMS**

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NUSMED CAMPUS WALK (NOVEMBER 2019)

As part of the NUSMed Total Workplace Safety and Health (TWSH) commitment, a Campus Walk was organized on 22 November 2019 from 4 pm onwards. We registered and participated in the walk as our commitment to a healthy culture in the department.



Campus Walk

Get a stamp in your Health & Wellness passport!

Friday 22 November 2019
Be rewarded with 5000 HealthPoints and 10 HeartVoice tickets upon completion!

Programme

- 4:00pm Starting point: MD6 donor wall facing NUH
Collect FIRST tag, and commence Campus Walk
- 5:00pm Check in at "Linkway to Central Library"
Collect SECOND tag
Walk back to NUS Medicine
- 5:30pm Ending point: MD6 donor wall facing NUH
of walk to claim your reward*
Collect a stamp in your Health & Wellness Passport for the "Garden Walk"

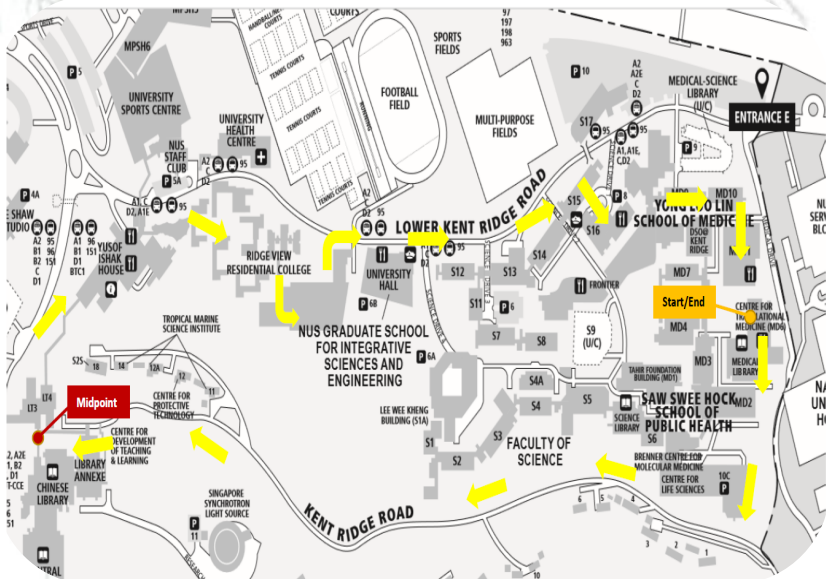
Route will be announced on the actual day
**The HeartVoice app must be installed to claim your HealthPoints and HeartVoice tickets*
Download the HeartVoice app at ourheartvoice.com
For general enquiries, please contact medtwh@nus.edu.sg



Sign up at tinyurl.com/CampusWalk2019

NUS National University of Singapore
Yong Loo Lin School of Medicine

Organised by
NUSMed Health Champions



“Are you MENTALLY Healthy?”



Good mental health is related to mental and psychological wellbeing.

Mental wellbeing relates to our ability to positively experience life, effectively manage life's challenges, realise our potential and make a meaningful contribution within our community.

Having good mental wellbeing helps us to deal with challenges, solve problems and achieve our goals. Maintaining good mental wellbeing also reduces our vulnerability to mental health difficulties and challenges in life.

Sleep Well

Getting enough sleep (7 to 9 hours daily for an adult) is key to better concentration and focus.



Do More of What Makes You Happy

Take a break to do what you enjoy can refresh you to better handle your problems.



Manage Your Time

Plan your time well so that you can complete your tasks on time. Break large tasks into smaller manageable parts.

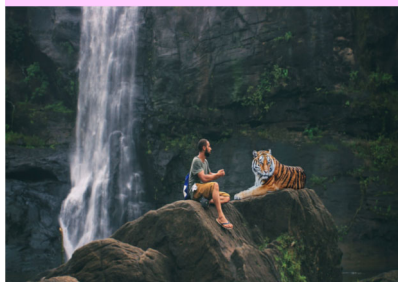
Exercise Regularly

Exercising releases “happy hormones” into your body.



Speak to Someone

Seeking help is not a sign of weakness. Share your worries with someone you trust.



Practise Deep Breathing

Breathe in deeply through your nose for 5 counts and breathe out slowly for 5 counts. learn some relaxation techniques to help you cope with the stresses of everyday life.



Think Positive
Changing your mindset and having a positive attitude can make you happier.



If you or your loved ones feel overwhelmed, do seek professional help. Call Talk2Us Helpline* (1800-8255-287) to speak to someone. *Helpline is available on weekdays, from 8:30am to 5pm. Rest assured that your identity will be kept confidential.

Reference:
<https://www.healthhub.sg/live-healthy/891/mental-wellbeing>

HIGHLIGHTS OF NUS/OSHE SAFETY & HEALTH NEWS (AUGUST - DECEMBER 2019)

Contractor Management

- Guideline has been updated according to Code of Practice: Risk Management & PDPA requirements
- Key changes include:
 - Responsibilities when engaging & managing contractors
 - Revised format of Risk Assessment template (Form A) for contractor
 - Personal data collection in Form B pg.2
- Details available on NUS Medicine Safety webpage: <https://nusmedicine.nus.edu.sg/safety/>

Talk on SS641:2019 Code of Practice on Fire Safety in Laboratories Using Chemicals

- Speaker: Mr Hairulnizam Bin Ishak, OSHE
- Date: 25 November 2019, Monday
- Time: 2pm to 3pm
- Venue: MD9 Level 1 Seminar/ Workshop Room

Management of Chemical Transfer Between Laboratories

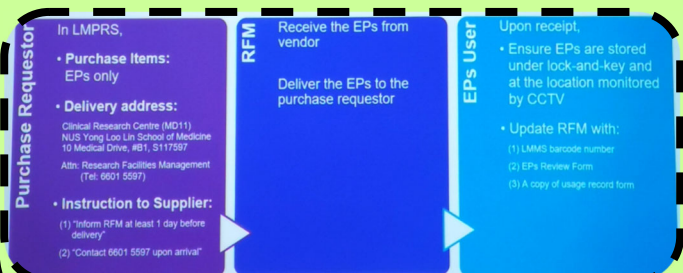
- Ensure compliance during transfer of Explosive Precursors
- Applicable to NUS Medicine laboratories situated at MD1, MD3, MD4, MD6, MD7, MD9, MD10, MD11, DSO & NUH
- Submit transfer request at: <https://nusmedicine.nus.edu.sg/safety> under Chemical Transfer (*Addendum: The requirement for submission of transfer request is not applicable for Hazardous Substances until further notice*)

Control of Chemicals Under Review by Multilateral Environmental Agreements

- New chemicals controlled under EPMA & EPM(HS) Regs:
 - Acetochlor; Amitraz; Atrazine; Benzidine & its salts; Bis(chloromethyl) ether; Dinoterb; Hexazinone; Lambda-cyhalothrin; Perfluorohexane sulfonic acid (PFHxS), its salts & PFHxS-related compounds; and Paraquat & its salts
- HS licence required to import, export & sell, and HS permit required to store & use.
- Two chemicals to be listed in Stockholm Convention:
 - Dicofol; and Pentadecafluorooctanoic acid (PFOA), its salts and PFOA-related compounds; articles containing PFOA
- Manufacture, import & export of these chemicals, its salts and related compounds as well as products containing them will not be allowed.
- **Implementation date: 12 February 2020**

Control of Explosive Precursors (EPs) Delivery

Ensure compliance during delivery of EPs & All EPs will be delivered to a centralized address



HIGHLIGHTS OF NUS/OSHE SAFETY & HEALTH NEWS (AUGUST - DECEMBER 2019)

Update of NUS Laboratory Biorisk Management Manual

- Revised on 6 September 2019
- Additional Requirements for Poliovirus Infectious Materials or Potentially Infectious Materials (Section 9.1.8)
- Additional Appendix D.2 on the Do's and Don'ts on the Use of BSCs

Changes to Non-Ionising Radiation Licensing Regime

- With effect from 1 August 2019

Licences	New Changes
N2	<ul style="list-style-type: none"> ▪ No longer required for industrial ultrasound apparatus with power output < 1,200W ▪ One N2 licence may cover 2 or more irradiating apparatus <ul style="list-style-type: none"> - Existing licensees who are holding valid non-expired N2 licences issued before 1 August 2019 may request for their N2 licences to be consolidated
N3	<ul style="list-style-type: none"> ▪ N3 licence exemption is applicable only to registered medical doctors/dentists using medical lasers in clinics/hospitals/other Private Hospitals and Medical Clinics sites

Update on Poliovirus Potentially Infectious Materials (PV PIMs)

Facility Reporting Form 1*

Facility Type	Actions, If Required
New Facility Handling PV PIMs (once collection of PV PIM samples begins)	<ul style="list-style-type: none"> ▪ Complete and submit a copy of the Facility Reporting Form 1 to Dr Sheela Reuben at oshrrsh@nus.edu.sg OSHE will submit the form to MOH on behalf of the facility thereafter
Existing Facilities Holding PV PIMs	<ul style="list-style-type: none"> ▪ No action required
Facility Collecting PV PIMs that will Disposed Upon Immediate Use (i.e. no retention of PV PIM or its derivatives)	<ul style="list-style-type: none"> ▪ No action required

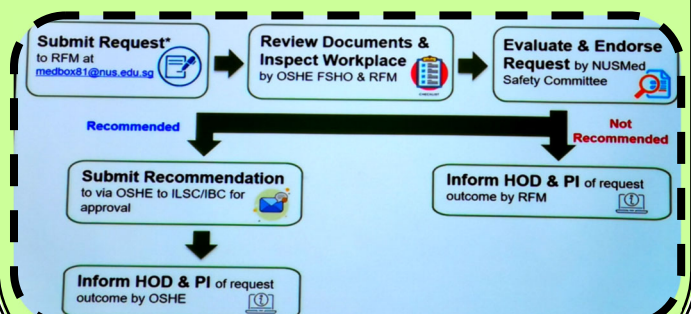
OSHE Contacts Regarding

Facility Reporting Form 1 & PV PIMs Transfer Form	<ul style="list-style-type: none"> ▪ Dr Sheela Reuben oshrrsh@nus.edu.sg ▪ Dr Christine Hu oshchz@nus.edu.sg
Risk Mitigation Plan	<ul style="list-style-type: none"> ▪ Dr Lim Cheh Peng oshlimcp@nus.edu.sg

https://share.nus.edu.sg/corporate/forms/safety_and_health/Biological-Safety/PV%20PIMs%20Transfer%20Form.pdf

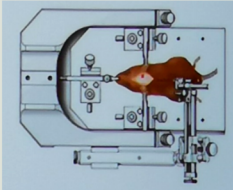
Eye Protection Exemption Request Workflow

- OSHE's Form: https://inetapps.nus.edu.sg/osh/portal/genlab_safety/eye%20protection_waiver%20form.pdf



HIGHLIGHTS OF NUS/OSHE SAFETY & HEALTH NEWS (AUGUST - DECEMBER 2019)

NUSMED INCIDENT & ACCIDENTS SHARING

DESCRIPTION	POSSIBLE CAUSE	LESSONS LEARNT
<p>1. Unsafe Use of Biosafety Cabinet (BSC) - A researcher placed her head inside a BSC while injecting RG2 (human cells) into the drain of the mouse</p> 	<ul style="list-style-type: none"> - Difficulty in visualizing the skull of the mouse in the BSC 	<ul style="list-style-type: none"> - Increase awareness among researchers to consult PI, OSHE or CM for any deviation from the standard microbiological practices - Change experimental methods to avoid breaching of the containment
<p>2. Unsafe Use of Biosafety Cabinet (BSC) - The vents of the BSC she was using were covered with objects – potential release of aerosols into the room due to airflow disruption</p>	<ul style="list-style-type: none"> - Neglect of unsafe practices 	<ul style="list-style-type: none"> - Ensure BSC vents are not blocked for proper airflow
<p>3. Animal Bite - An undergraduate student received a mouse bite on her thumb when she attempted to restrain it for injection - She noticed a drop of blood on the punctured glove - She washed the wound for 5 minutes</p>	<ul style="list-style-type: none"> - Lack of experience – it was the first mouse the student attempted to handle after the RCULA training 	<ul style="list-style-type: none"> - Attend retraining on handling mice to improve competency - Wash the wound for at least 15 minutes and use the scratch bite kit during such incidents
<p>4. Cut by object - An undergraduate student sprayed 70% ethanol on a bottle of sterile media and wiped with paper towel - When he lifted the bottle from the work bench, it dropped and cracked - He suffered a cut between his index and middle fingers by the re-bounced shattered glass</p>	<ul style="list-style-type: none"> - The student lost grip of the slippery bottle 	<ul style="list-style-type: none"> - Spray 70% ethanol on the paper towel and not directly on the glass bottle - Ensure glass surface is completely wiped dry on the bench and gloves are not wet before lifting up a bottle - Lift up a bottle by using one hand holding its body and the other hand supporting its base - Educate lab users on the RA "Proper Transfer of Media Bottles"
<p>5. Needlestick Injury - A staff drew cell mixture (HeLa cells and matrigel) from a tube into a syringe with needle. - She accidentally pricked herself on her left thumb with the needle while trying to dispose the tube in her left hand. - The superficial prick wound could not be located after the small drop of blood seen was cleaned away. - OH doctor could not spot any wound and did not think it was serious.</p>	<ul style="list-style-type: none"> - Staff was performing another task (of disposing the tube) and did not focus on handling sharps. 	<ul style="list-style-type: none"> - Staff was told to focus on the task of handling sharps and not to simultaneously perform another task – RA and SOP have been revised.
<p>6. Animal Bite - A staff was bitten on his finger by a mouse (infected with Mycobacterium tuberculosis) in a BSL-3 laboratory when trying to restrain it for gavaging. - No holes were noted on both layers of the gloves, no blood was spotted – no follow up was needed</p>	<ul style="list-style-type: none"> - Staff was not holding the mouse tight enough – the mouse turned back and bit. 	<ul style="list-style-type: none"> - Researchers will hold mice tightly before gavaging. - Staff started wearing "scratch resistant" gloves when handling infected mice. - Staff has been given re-trainings on the experimental and emergency procedures. - Staff is always being supervised while gavaging. - Staff has been asked to read through the BSL-3 Core Facility Safety Manual and briefed on the important points.

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