PPE Webinar – notes on discussion
16 April 2020

View this webinar in full here
View the BAPRAS PPE guidance here
View the Public Health England guidance here

Main points from this webinar

- Guidelines produced for PPE by Public Health England didn't relate to the specific risks in plastic surgery, so we've produced our own interpretation
- There is a lack of specific evidence available. You are reminded that PHE guidelines are general and should be interpreted where appropriate
- You cannot securely stratify whether colleagues or patients carry COVID and it is entirely possible for infection to be transmitted before we are aware of an individual's status
- While there is a real risk of being infected, there are simple, effective ways to stay safe (outlined in BAPRAS guidelines)

Faculty

Professor A Hart, Editor JPRAS, Consultant Plastic Surgeon, Glasgow
Mr M Henley, BAPRAS President, Consultant Plastic Surgeon, Nottingham
Mr S Hettiaratchy, Trauma Lead, Imperial College Healthcare, London
Mr D Sainsbury, Consultant Plastic Surgeon, Newcastle
Mr J Neil-Dwyer, Consultant Plastic Surgeon, Nottingham
Miss R Waters, BAPRAS Deputy President, Consultant Plastic Surgeon, Birmingham
Mr B Baker, PLASTA President, Specialist Registrar, Plastic Surgery
Mr R Pritchard Jones, Medical Director, Consultant Plastic Surgeon, Liverpool

Points from each speaker

General anaesthetic (S Hettiaratchy) link to video

- PHE guidelines say full PPE should be used in operating theatres
- There may be difficulties in using full PPE for techniques that use loupes or in microsurgery
- The main exposure risk in general anaesthetic will be in in/extubation, but exposure risk reduces after two air changes (in appropriately ventilated theatres)- after this point the need for full PPE is greatly lessened.

Local Anaesthetic (A Hart) link to video

- Surgery above the clavicle places the operator at higher risk
- You are advised to minimise the number of people in theatre

Devices (D Sainsbury) link to video

- PHE guidelines say avoid aerosol generating devices- for us this means drills, versajet, electric dermatones, high-pressure irrigation
- Paper from team in Munich indicated that virus hadn't been found in blood or urine- theoretically there is no aerosol generation risk in, for example, a split skin graft on the thigh. Note this is

theoretical and it would be advisable to still be to use enhanced PPE in those situations (see resources below)

Principles to guide plastic surgeons (J Neil-Dwyer) link to video

- The body of data shows that the majority of transmission is from asymptomatic patients
- Likelihood of asymptomatic carriage is higher the lower the age group
- Data from China showed that in an ICU or COVID +ve ward, most people were carrying the virus on their shoes

Principles for reducing COVID-19 Transmission (A Hart) link to video

- Start well before the clinical encounter- minimise patient contact
- Consider which patients you can safely defer, particularly for those groups that are to be shielded
- Be careful about social distancing both with patients and also staff
- Be aware of hygiene not only of hands, but also your environment (eg desks, keyboards, phones, light switches)
- Ensure the most appropriate person to deliver the care has the contact with patients
- There are two designs of FFP3 masks that are not fluid resistant- be aware of the type of mask that you are wearing and if necessary, wear an additional fluid resistant surgical mask if doing aerosol generating procedures/change front surgical mask between patients.

Managing a COVID-19 Ward- lessons learned (R Waters) link to video

- Plastics department in Queen Elizabeth Hospital, Birmingham has been in charge of a COVID admitting ward
- PHE guidelines, enforced by the Trust, for being in contact with COVID +ve patients were that the individual should wear a plastic apron, gloves and surgical mask. The team felt that this wasn't appropriate and encouraged and supported staff in wearing additional PPE
- Proning training was problematic and wasted a large amount of PPE, which wasn't being provided on the ward- be aware of how PPE is being used
- Despite best efforts, one trainee and one consultant has COVID symptoms- the risk to staff should not be underestimated.

Trainee's perspective (B Baker) link to video

- Acknowledged that there will be a reduction in training opportunities, with more surgery being consultant-led.
- If there are concerns about PPE, escalate through your clinical education supervisor.
- If you have been redeployed, you should have been allocated an additional supervisor for redeployment
- Ben Baker and Susan Hendrickson (PLASTA), and Simon Eccles (BAPRAS) are a point of contact for any trainees experiencing difficulties.

Impacts on major trauma care (S Hettiaratchy) link to video

- Initially saw a drop off in activity of around 70% in London for major trauma, but this is climbing again and departments are increasingly busy, though not at the levels seen prior to lockdown
- Expecting a spike when lockdown precautions are relaxed
- Have tried to preserve orthoplastic pathways in London, though a change in triage system means this may not be the case nationally

COVID testing- Medical Directors Perspective (R Pritchard-Jones) link to video

- Crucial that all staff know the common-sense guidelines, but that individuals are empowered to use their own judgement
- Sensitivity of current antigen test is around 80%. It is important not to rely absolutely on these tests as individuals can test negative, but then go on to contract the virus and carry it asymptomatically in between testing and arriving at hospital for a procedure

Indemnity (M Henley) link to video

- Risk of operating on someone who is COVID +ve is significant- assume all elective patients are COVID +ve unless proven otherwise
- BAPRAS is awaiting clarification about the potential for litigation in cases where a patient's outcome has been affected by delaying treatment.
- There a very few operations in plastics where immediate action is required. If you are put into a situation where you don't feel you are adequately protected, you should not proceed. BAPRAS will support anyone who feels they have not been supported in this matter.

Audience Discussion/Questions link to video

-Note- there's a film on the front of visors that can be removed, to help with usage when wearing loupes

-Do we have any specific information regarding use of versajet?
-This should have a low risk of causing infection, but there's no specific evidence. Audience was advised to avoid unless essential.

-Any advice on office-based LA procedures?
-Advised to move into theatres with adequate ventilation

-Is there any guidance on use of face masks in face to face consultations?
-The evidence is a face mask will reduce aerosol load to 1/6 of not wearing one, but also stops people from touching mouth and nose, and if necessary contains the virus. The panel concluded it was sensible to wear a mask when seeing patients face to face, though use of masks in consultations involving children was noted to be potentially distressing for the patient

-Do FFP mask become less effective as time goes on?
-It was noted that FFP3 masks have a 6 hour time limit, though they'll be uncomfortable well before this.

-Some audience members were reporting seeing out of date FFP3 masks
-The panel noted that kit has been rigorously tested, and been found to still be effective after the use by date, so kit with either expired dates, or new dates stuck over the top of initial dates are being seen in circulation

-Are fluid-resistant surgical masks sufficient rather than FFP3 when reviewing COVID +ve patients?
- It's down to what the individual is comfortable with- there's no evidence at the moment either way.
-Note- Doffing is the most dangerous time- one of the most dangerous surfaces in Chinese studies was shown to be the outer surface of masks.

-Given hospital is a high risk environment for contraction of Covid-19, this risk also applies to patients attending LA/day case procedures, then going home. Are there any plans to screen patients 4-5 days after discharge from hospital after such a procedure for potential symptoms/virus to better care for our patients?
-Until we get clarity on community testing, we can't give a definitive answer- policies are differing across health boards and indeed across services- Assume everyone has a high risk of being positive- if you can avoid doing a procedure, avoid it; if you have to do it, mitigate the risk

-Would it help if LA patients wore masks?
-PHE guidance is to consider this if reasonable and won't compromise patient care

- Has Mr Hettiaratchy or others noted any coagulation issues in COVID +ve patients?
- Vascular surgeons are seeing patients present with ischaemic limbs due to increased coagulation.
- just spent 6 days on ICU and yes there is a thrombotic phenotype with the type of peripheral ischemia we see in meningococcal sepsis. There's the suggestion that the thrombosis could be the main problem with ventilation issues

- I'm hearing there maybe issues with free flap outcomes. Any special investigations/ TEG's being adopted across units/ITU's?
- we use TEG for trauma free flaps but yes they all have high D-dimers so probably are pro-coagulant

- Question for Mr Hettiaratchy/panel – earlier you mentioned swab testing all elective surgical patients pre-op x2 in your trust. How far apart are these swabs performed - 48-72 hrs? How are you managing asymptomatic elective cases that test positive for COVID? We are delaying by minimum 2 weeks where possible
- swabs are 24hrs apart- a praamatic compromise.....I think waiting 2 weeks seems sensible

- Any guidance for use of microscopes in head and neck free flaps?
- if you're worried about aerosolisation (ie risk of circuit break) then use a FFP3 mask. You can use the scope without eye protection as the splash risk is low

- For Mr Hettiaratchy- Are you using any additional pharmacological measures to mitigate the procoagulant COVID state for the free flaps. In addition to local heparinsed saline irrigation? Like aspirin or post op heparin?
-We're not doing anything different to normal protocol, which includes use of heparin and aspirin if required

-Any advice on protecting self from colleagues returning after self-isolation.
-Follow the principles of social distancing, hand hygiene, and if you're not able to socially distance, staff members should wear masks

Additional resources

Ziegler BL, Thomas CA, Meier T, et al. Generation of infectious retrovirus aerosol through medical irradiation. Laser Surg Med 1998;22:37e41.10.
https://www.ncbi.nlm.nih.gov/pubmed/9443148

Hallmo P, Naess O. Laryngeal papillomatosis with papilloma virus DNA contracted by a laser surgeon. Eur Arch Oto- rhinolaryngol 1991;248:425e7.
https://www.ncbi.nlm.nih.gov/pubmed/1660719

Woelfel, R et al- Virological Assessment of Hospitalized Patients with COVID-2019
doi.org.10.1038/s41586-020-2196-x