

Guidance on preparations to support the NHS with potential PPE requirements whilst maintaining the safety of our colleagues and patients during the COVID-19 pandemic (last updated 06/04/2020)

The effects of the COVID-19 pandemic may result in a shortage of PPE in the veterinary profession, due to an increase in use for biosecurity and stocks being diverted to the NHS. Practice teams may be asked to release stocks of PPE to the NHS. Practice teams may therefore need to ration PPE, such as surgical gloves and facemasks, and find alternatives to disposable PPE and turn to reusable materials. This guidance is to help practice teams ensure that they are prepared in the case of a PPE shortage to ensure that the safety of colleagues and patients are maintained.

Bottom line

Disposable PPE should be conserved:

- To protect veterinary staff from infectious agents or cytotoxic drugs
- To protect patients who are immunocompromised
- To prevent the spread of infectious agents around the practice e.g. Parvovirus
- For higher-risk surgical procedures, e.g. where an implant is used or entry into a body cavity

Protecting people

Infectious/zoonotic disease: (1)

If disposable aprons are unavailable, reusable plastic aprons can be used and wiped with disinfectant after each use to prevent fomite transfer.

- Reserving non-sterile gloves for animals from known/suspected COVID-19 positive households or premises
- Reserving non-sterile gloves for animals at high risk of contagion (i.e. carrying contagious conditions)
- Reserving disposable facemasks for:
 - Dealing with a client from a known or suspected COVID-19 positive household or premises where social distancing is not feasible
 - Dealing with an animal from a known or suspected COVID-19 positive household or premises where there is a splash or aerosol risk.

Chemotherapy:

Chemotherapy treatments often involve a lot of client visits to the practice and PPE. In a time where these should be minimised, protocols will need to be refined to avoid use of injectable agents for which PPE is mandatory. Specialist advice should be sought before changing or starting treatment protocols.

Protecting patients

- Using sterile surgical gloves for higher-risk surgery only
- Using good hand hygiene, sterile preparation, and/or non-sterile gloves for low risk procedures
- Using good hand hygiene and cleanliness for low-risk animals
- Reserving non-sterile gloves for patients that are immunosuppressed or carrying contagious conditions. Reusable aprons can be used and disinfected between patients.
- Source reusable theatre PPE in the case that disposable materials are not available.

Disinfecting examination gloves for reuse is typically not recommended. However, if faced with a shortage, they can be disinfected with an 62%-71% ethanol based hand gel or 0.1% sodium hypochlorite. These agents can reduce coronavirus infectivity within 1 minute. Nitrile gloves are better than latex for this purpose. Gloves should be replaced after 10 cycles of cleaning, are torn, showing signs of wear or grossly contaminated with body fluid. Take caution that wearing gloves for long periods of time can cause skin irritation, so breaks are recommended. (2, 3, 4)

PPE options for the theatre

Theatre attire has been shown to reduce surgical site infections (SSIs). However, what is considered appropriate theatre attire has been the source of much debate. Evidence is often limited or inconclusive however, the argument has been made that when PPE is worn in theatre, the act of wearing full attire (mask, gown, cap, gloves) may help theatre staff take on a different mindset, promoting higher standards of asepsis to be maintained, resulting in improved patient safety. (4)

Sourcing reusable alternatives in the face of disposable PPE shortages will help practice teams continue to maintain the best possible infection control measures to prevent SSIs. Applying basic principles will also contribute to good outcomes:

- Good hand hygiene, as most pathogen transmission is via the hands
- Asepsis
- Good technique following Halsted's Principles
- Appropriate patient preparation, to reduce bacterial flora

Alternatives: (6, 7)

Gloves

Sterile, disposable gloves are critical for reducing SSIs. These should be conserved and only used when essential, such as procedures entering a body cavity or using an implant. If sterile surgical gloves are no longer available, nitrile examination gloves can be autoclaved for sterility. There is no data on SSI rate for sterilised nitrile gloves, but they may be a good option for emergency surgery. Latex gloves are not appropriate for sterilisation as they are more likely to break.

Gowns

Sterile gowns have been shown to reduce SSIs. Reusable cloth gowns are sufficient for most routine veterinary surgeries and can be used in place of disposable gowns if unavailable. Gowns should be regularly examined and disposed if thinning due to frequent laundering (> 50 washes) and showing excessive wear.

Masks

The role of face masks in reducing SSIs is debatable. When comparing disposable to reusable cloth masks, there was no reduction in SSIs when using disposable masks. Therefore, well-fitting, reusable cloth masks can replace disposable masks.** Masks could also be restricted to essential staff scrubbed into the procedure.

**Please note that this refers to reduction of SSIs; reusable cloth facemasks may be less effective at protecting the wearer from viral or bacterial infections than surgical masks.

Drapes

Controlled studies have shown no difference in infection rates between reusable and non-reusable materials, except when implants were placed. Reusable cloth drapes should be sufficient for most routine veterinary procedures. However, impervious drapes or barriers around incision sites are recommended if large amounts of blood, lavage or other fluids are expected during surgery.

Reusable drapes should be inspected regularly and disposed if showing tearing or excessive wear. Drapes treated with fluid-repellent chemicals should be used and cleaned according to the manufacturer's instructions.

Surgical caps

Reusable cloth skull caps have been shown to be superior to bouffant caps. Caps should be laundered daily, even if appearing clean.

Booties

Disposable shoe covers or booties are used to protect footwear from patient fluids in the theatre, preventing tracking of contaminants throughout the practice. Shoe covers have not been shown to reduce surgical infections or decrease bacterial contamination on floors. If no shoe covers are available, dedicated footwear could be used to be worn only in theatre.

References:

1. Nuttall, T, Mosedale, P. (2020) Personal Protective Equipment (PPE) in veterinary practice during the COVID-19 pandemic FAQ. *RCVS Knowledge*. Available online <https://knowledge.rcvs.org.uk/covid-19/>
2. Kampf, G. (2020) Potential role of inanimate surfaces for the spread of coronaviruses and their inactivation with disinfectant agents. *Infection Prevention in Practice*. Available online: <https://www.sciencedirect.com/science/article/pii/S2590088920300081>
3. Chang, J, Jeong, T, Lee, S, Kim, Y, Lee, J, Lee H, Kwon H. (2018) Intactness of Medical Nonsterile Gloves on Use of Alcohol Disinfectants. *Annals of Laboratory Medicine*. Available online: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5700156/>
4. Scheithauer, S, Hafner, H, Seef, R, Seef, S, Hilgers, R, Lemmen, S. (2016) Disinfection of gloves: feasible, but pay attention to the disinfectant/glove combination. *The Journal of Hospital Infection*. Available online: [https://www.journalofhospitalinfection.com/article/S0195-6701\(16\)30322-X/abstract](https://www.journalofhospitalinfection.com/article/S0195-6701(16)30322-X/abstract)
5. Roberts, C. (2019) Theatre scrubs and their impact on patient safety during surgery. *Vet Times*. Available online: <https://www.vettimes.co.uk/article/theatre-scrubs-and-their-impact-on-patient-safety-during-surgery/>
6. Tobias, K. (2020) Quiz: PPE Options for Urgent Surgical Cases. *Clinicians Brief* Available online: https://www.cliniciansbrief.com/article/quiz-ppe-options-urgent-surgical-cases?utm_medium=email&utm_source=Clinician%27s+Brief+Newsletter&utm_campaign=Online+2003&oly_enc_id=2561J9156245B1W
7. Bartek, M, Verdial, F, Dellinger, EP. (2017) Naked Surgeons? The Debate about What to Wear in the Operating Room. *Clinical Infectious Diseases* Available online: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5850458/>



This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/).
Feel free to adapt and share this document with acknowledgment to CVS (UK) Ltd.