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SHORT COMMUNICATION

Recommendations on Otorhinolaryngology Procedural-Based Services During COVID-19 Pandemic

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ABSTRACT

The current COVID-19 pandemic has forced many clinical disciplines to evolve to function safely and still provide the necessary care. Otorhinolaryngology (ORL) is a field that has been greatly affected by this highly transmissible viral pathogen. Aerosolizing procedures, proximity examination and other common procedures must be revamped to suit current time. The usual norm ORL procedures need also be altered to incorporate safeguards to protect both patient and healthcare workers. This recommendation for current practices aims to give a practical approach to modify current practices to maintain safety during the pandemic. These recommendations are the consensus amongst ORL practitioners in Hospital Sungai Buloh which is the designated COVID-19 centre for Malaysia's central region and is currently being practised.

INTRODUCTION

Otorhinolaryngology (ORL) is a very heavy surgical-based subspecialty procedure (American Academy of Otolaryngology-Head and Neck Surgery, 2020). The procedures are also at high risk to disseminate COVID-19 due to factors like proximity to the patient and aerosol-generating procedures. In the initial emergence of disease, it has been reported that ophthalmology, ORL and dental specialities are the most affected due to the nature of their procedures. Practitioners were reported to contract COVID-19 during daily practice. Thus, certain principles and

precautions must be applied to reduce the risk of COVID-19 during practice.

Some principles are worth to be practised to ensure safety. Avoidance of propagation and dissemination of disease through proper personal protective equipment (PPE) (O'Neill, 2020; The Canadian Society of Otolaryngology - Head & Neck Surgery [CSO-HNS], 2020), a judicious indication of procedures and limiting non-essential/ elective clinical activities to avoid contact should be practised. These must take place while ensuring adequate care is given to patients in minimalizing the risk of disease propagation. Adherence to the latest evidence-based practice in the evolving management of COVID-19 should also be emphasized to maximize efficiency while not compromising on safety.

The amount of PPE that need to be donned will, of course, reflect the amount of exposure that the practitioner will be subjected. It is easily gauged when the patient is known to be COVID-19. This applies to suspected patients with symptoms of COVID-19, where the maximum amount of PPE should be donned prior to any interaction or procedure. This is not the case for asymptomatic patients that health care workers may encounter during consultation or procedures. ORL examinations and procedures are mainly high risk to health care workers due to proximity and high potential to cause aerosolization of viral particles.

Recommendations for Personal Protective Equipment in ORL Practice

The Canadian Society of head and neck surgery has proposed a practical outline of PPE usage which has been adapted to the Malaysian Ministry of health recommendations (Ahmed et al., 2005; CSO-HNS, 2020). This is further refined in this recommendation to suit our local scenario while not compromising the efficacy.

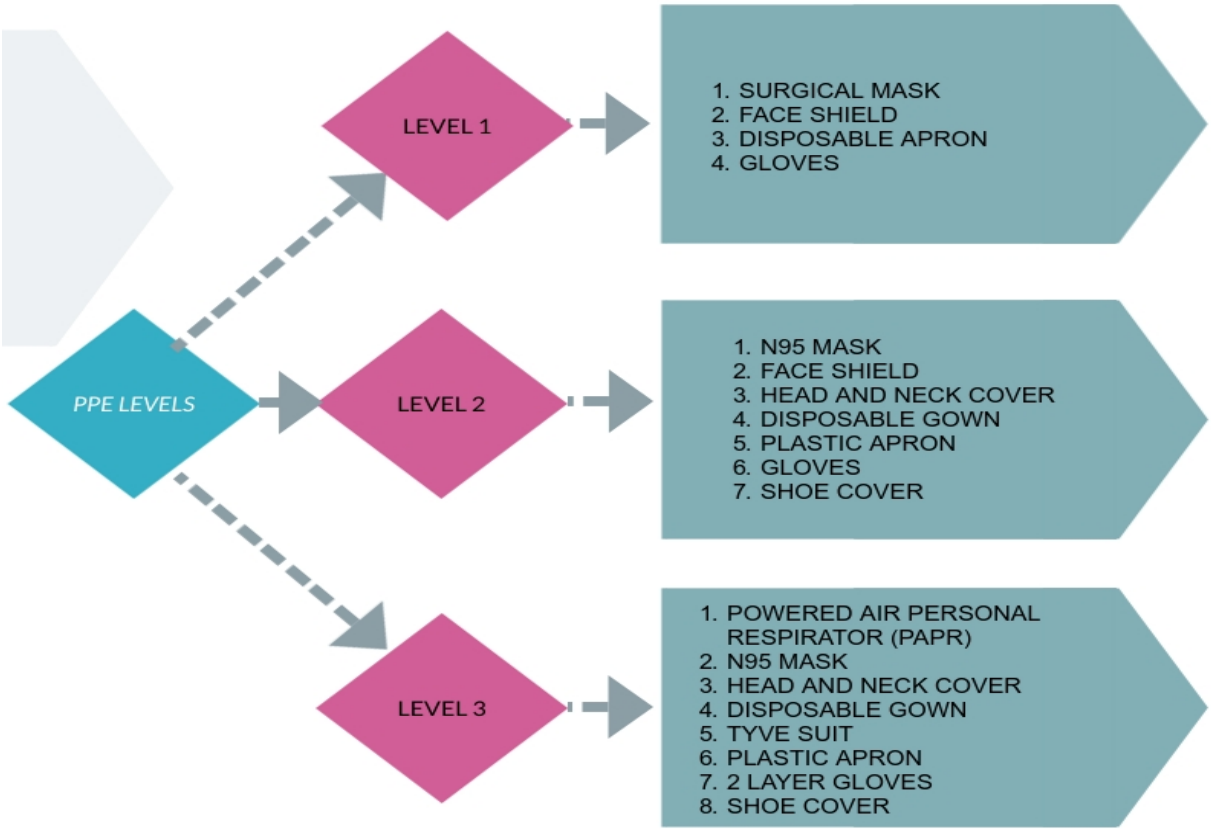

Figure 1 Levels of personal protective equipment

It is recommended that level 2 PPE be used in the clinic procedure room for all procedures such as rigid nasoendoscopy, flexible nasopharyngolaryngoscopy and tracheostomy tube changes. Level 3 PPE's should be donned when dealing with any patients suspected or confirmed COVID-19 regardless of the procedure (Figure 1).

The availability of PAPR remains an issue in some centres, thus raising the issue of alternative PPE in the event of PAPR being unavailable. There is no evidence to suggest that there is a replacement for PAPR in a confirmed positive COVID-19 case. Using an N-95 mask with a PAPR also shows benefit (Roberge et al., 2008). This is especially useful while performing a highly aerosolized procedure such as tracheostomy and endoscopic nasal surgery. Thus, PAPR is still the standard of practice for all COVID-19 or COVID-19 suspected patients, and it is recommended that administrators allocate these devices for ORL use.

The use of N-95 mask with PAPR is also recommended since there is evidence that shows benefit in using both devices simultaneously (Crisis Preparedness and Response Centre [CPRC], 2020). There have also been incidents of PAPR failing during procedures. N-95 mask would serve as a temporary back up to limit the risk of infection to health care worker.

Most of ORL procedures are considered high-risk procedures due to the aerosolization effect (CSO-HNS, 2020). Multiple documentation of ORL staff developing severe manifestation of COVID-19 has surfaced worldwide, and it is suggested that it happened due to spread from patients (Chan et al., 2020; Ellison, 2020; Fusco et al., 2020). Due to the nature and current spread patters of COVID-19, it is recommended to assume that all patients are potential asymptomatic COVID-19 patient until proven otherwise in respect to an ORL Procedure (American Academy of Otolaryngology-Head and Neck Surgery, 2020; Chan et al., 2020; CSO-HNS, 2020; Lu et al., 2020). It is recommended to test for COVID-19 for all surgical procedures before operation if possible (American Academy of Otolaryngology-Head and Neck Surgery, 2020; Chan et al., 2020; Gilat et al., 2020; CSO-HNS, 2020; Kuhar et al., 2020; Silva et al., 2020). PPE should be worn for all staff present during the procedure, as mentioned earlier. Level 2 PPE should be worn despite the patient having a COVID-19 negative test. It is recommended that this minimum PPE requirement become the new normal for the time being until the disease incidence rates drop significantly (CSO-HNS, 2020).

Emergency Procedure

Emergency Procedures must have a multi-disciplinary approach. Communication between ORL team, anesthesiology and infectious disease team must be clear and transparent. The indication of the procedure must be agreed by all teams. It is recommended to treat any patients with suspicious or unknown history as a suspected COVID-19 patient until proven otherwise. If the patient is COVID-19 positive or unknown status, the procedure must be done in accordance with current hospital operating protocol for transfer of patient, specialized operating theatre (OT). Full personal protective equipment for all OT staff as per hospital protocol (PAPR is mandatory). OT instruments are specialized for COVID-19 patients. Use disposable equipment when able. Cleaning and disinfecting of instruments should be done according to hospital Infection control protocol (Chee et al., 2004).

Experienced ORL team personnel should be present for a procedure to reduce operating time. Ideally, one surgeon, one medical officer, one scrub nurse and one circulating nurse only in the operating theatre. The total number of personnel in OT should be limited. Post-operative precautions during transfer and post-op care to ensure continuity of risk reduction to disseminate disease (Chee et al., 2004).

Elective Procedures

In the current stage of the pandemic, it is advised that all elective surgeries be postponed until the number of infection cases is acceptable in the population (Gilat et al., 2020; Silva et al., 2020). This is to allow resources and human resources to be diverted to containing COVID-19. Consideration of timing to resume elective services should be made if any the following conditions have been met:

a. Testing for COVID-19 can be done for elective cases
b. A viable treatment has been implemented
c. Development of vaccine
d. Herd immunity has been achieved

Testing for COVID-19 is imperative for the safety of the patient as well as the health care worker. It is a form of vigilance to prevent further spread of the disease, and it benefits all. Thus it should be done liberally once the pandemic has reached a declining or stable stage. It is observed from other countries that a second or even third wave of the disease might re-emerge. The resumption of elective services should be started once numbers are controlled, but it should be ceased again if the need arises.

CONCLUSION

Modifications in current ORL procedural based practices is imperative to ensure safety for patients as well as staff. These modifications should also occur in tandem with other related specialities such as anaesthesia to ensure overall risk reduction.

DISCLAIMER

COVID-19 is a newly emergent disease; thus, management protocols are still evolving. Recommendations are made using available publications and the consensus amongst authors who are practising in Hospital Sungai Buloh which is the central region COVID-19 centre. Where there is a lack of data, best standard management practice is discussed within the fraternity of ORL surgeons. A detailed version of this recommendation document is available upon request to the authors.

REFERENCES

Ahmed, N., Hare, G. M. T., Merkley, J., Devlin, R., & Baker, A. (2005). Open tracheostomy in a suspect severe acute respiratory syndrome (SARS) patient: Brief technical communication. *Canadian Journal of Surgery*, *48* (1), 68 – 71. PMID: 15757043

American Academy of Otolaryngology-Head and Neck Surgery. (2020, March 23). *Otolaryngologists and the COVID-19 pandemic*. https://www.entnet.org/content/otolaryngologists-and-covid-19-pandemic

Chan, J. Y. K., Wong, E. W. Y., & Lam, W. (2020). Practical aspects of otolaryngologic clinical services during the 2019 novel coronavirus epidemic: An experience in Hong Kong. *JAMA Otolaryngology–Head & Neck Surgery*, *146* (6), 519 – 520. https://doi.org/10.1001/jamaoto.2020.0488

Chee, V. W. T., Khoo, M. L. C., Lee, S. F., Lai, Y. C., & Chin, N. M. (2004). Infection control measures for operative procedures in severe acute respiratory syndrome–related patients. *Anesthesiology: The Journal of the American Society of Anesthesiologists*, *100* (6), 1394 – 1398. https://doi.org/10.1097/00000542-200406000-00010

Crisis Preparedness and Response Centre (CPRC). (2020). Guidelines for management of surgery during COVID-19 pandemic (Version 2/2020). Ministry of Health Malaysia. https://ohd.moh.gov.my/images/pdf/Surgery_Guideline_V2.0.pdf

Ellison, T. (2020). COVID-19 in healthcare workers. *Journal Watch*. https://www.jwatch.org/na51848/2020/07/01/covid-19-healthcare-workers

Fusco, F. M., Pisaturo, M., Iodice, V., Bellopede, R., Tambaro, O., Parrella, G., Di Plumeri, G., Viglietti, R., Pisapia, R., Carleo, M. A., Boccardi, M., Atripaldi, L., Chignoli, B., Maturo, N., Rescigno, C., Esposito, V., Dell'Aversano, R., Sangiovanni, V., & Punzi, R. (2020). COVID-19 among healthcare workers in a specialist infectious diseases setting in Naples, Southern Italy: Results of a cross-sectional surveillance study. *The Journal of Hospital Infection*, *105* (4), 596 – 600. https://doi.org/10.1016/j.jhin.2020.06.021

Gilat, R., Haunschild, E. D., Tauro, T., & Cole, B. J. (2020). Recommendation to optimize safety of elective surgical care while limiting the spread of COVID-19: *Primum non nocere*. *Arthroscopy, Sports Medicine, and Rehabilitation*, *2* (3), e177 – e183. https://doi.org/10.1016/j.asmr.2020.04.008

Kuhar, H. N., Heilingoetter, A., Bergman, M., Worobetz, N., Chiang, T., & Matrka, L. (2020). Otolaryngology in the Time of Corona: Assessing Operative Impact and Risk During the COVID-19 Crisis. *Otolaryngology--Head and Neck Surgery*, *163* (2), 307 – 315. https://doi.org/10.1177/0194599820930214

Lu, D., Wang, H., Yu, R., Yang, H., & Zhao, Y. (2020). Integrated infection control strategy to minimize nosocomial infection of coronavirus disease 2019 among ENT healthcare workers. *Journal of Hospital Infection*, *104* (4), 454 – 455. https://doi.org/10.1016/j.jhin.2020.02.018

O'Neill, J. P. (2020). *COVID-19 update*. RCSI. https://www.rcsi.com/dublin/-/media/feature/media/download-document/dublin/covid-19-section/surgical-practice/ncps/covid19-update-from-the-rcsi-professor-of-otolaryngology-head-and-neck-surgery-25-march.pdf

Roberge, M. R., Vojtko, M. R., Roberge, R. J., Vojtko, R. J., & Landsittel, D. P. (2008). Wearing an N95 respirator concurrently with a powered air-purifying respirator: Effect on protection factor. *Respiratory Care*, *53* (12), 1685 – 1690. PMID: 19025703

Silva, L. E., Cohen, R. V., Rocha, J. L. L., Hassel, V. M. C., & von-Bahten, L. C. (2020). Elective surgeries in the "new normal" post-COVID-19 pandemic: To test or do not test? *Revista Do Colégio Brasileiro de Cirurgiões*, *47*, e20202649. https://doi.org/10.1590/0100-6991e-20202649

The Canadian Society of Otolaryngology - Head & Neck Surgery (CSO-HNS). (2020). *Guidance for health care workers performing aerosol generating medical procedures during the COVID-19 pandemic*. https://www.entcanada.org/wp-content/uploads/Protocol-for-COVID-and-AGMP-3-iw-mailer.pdf