

## **Supply of Personal Protective Equipment (PPE) During the Covid-19 Pandemic**

P. Rohan<sup>1</sup>, M.K. O'Reilly<sup>2</sup>, B. Gibney<sup>3</sup>, G.J. Nason<sup>4</sup>

1. Department of Surgery, Wexford General Hospital, Wexford, Ireland.
2. Department of Radiology, University of Washington, Seattle, WA, USA.
3. Department of Radiology, Vancouver General Hospital, Vancouver, BC, Canada.
4. Division of Urologic Oncology, Toronto General Hospital, Toronto, ON, Canada.

Dear Sir,

The COVID-19 pandemic has engulfed our lives. Everyone checks their phone and once again tunes into the evening news morbidly awaiting the daily statistics of number of cases, number of hospital admissions and number of deaths. Our healthcare professionals are working tirelessly against one of the greatest challenges to ever confront our health service. Our hospitals are staffed by doctors, nurses, allied health professionals, porters, cleaners, administrative staff among others- these are the front-line workers who put themselves (and as a result their families) at risk on a daily basis. Approximately 18% of COVID-19 diagnoses in Ireland are reported to be in active healthcare workers.<sup>1</sup>

Doctors returning from abroad and retirement will help but cannot fill the void of a fulltime, appropriately trained member of staff. A positive test in a healthcare worker obligates at least 14 day period of isolation. Although in hindsight the warning signs from Wuhan were there and SARS/MERS alerted us to the pandemic potential of these viruses, the extent of this pandemic was difficult to comprehend. Our healthcare professionals need to be protected- they need personal protective equipment (PPE), including scrubs, gloves, goggles, facemasks and respirators. Seeing GPs make their own PPE from hardware stores is not acceptable. A doctor manufacturing their own alcohol hand sanitizers is not acceptable.

In the short term, we need to be inventive but as safe as possible. Across the world, people of diverse backgrounds and experience are offering ideas and specialised skills to crowd-source solutions to COVID-19, including the Open Source COVID-19 Medical Supplies (OSCMS) group.<sup>2</sup> Among these is the local decontamination and reuse of PPE, including N95 Filtering Facepiece Respirators (FFR). Methods with acceptable decontamination and preservation of filtration function have been adapted to clinical use in the current pandemic, including Ultraviolet light germicidal irradiation and Microwave steam heating- an avenue under development between the HSE and Trinity College.<sup>3-5</sup>

It has been suggested that hospitals and health groups consider immediate commencement of an organised stockpiling of used, unsoiled FFR such as N95 or FFP3 masks and other PPE. This will result in a local supply of masks, ready for decontamination and reuse (if needed). The government is making huge efforts to increase the supply of PPE- this weekend 10 air freighters are en route to China at a cost of nearly €230million. But, if the pandemic drags on for months we may look back on this as a prudent and timely intervention given the greater protection FFR offer from aerosolised particles than surgical masks.

There are others, not directly involved in healthcare that should examine their supply chain to help meet the demands from this All-Ireland effort; local businesses such as O'Neill's sportswear have begun to manufacture scrubs in Ireland. These are testing times and no doubt everyone is playing their part by social and physical distancing. However we need to continue to think outside the box, to ensure the most basic of equipment is available to those who need it now and potentially in the future.

**Corresponding Author:**

Dr Pat Rohan, MCh, BCh, MB, BAO  
RCSI CST2 Trainee  
Department of Surgery,  
Wexford General Hospital,  
Ireland.  
Email: pat.rohan@ucdconnect.ie

**References:**

1. "Why are 25% of confirmed Covid-19 cases health workers?" Article, March 27<sup>th</sup> 2020. [Accessed March 28<sup>th</sup> 2020]. Available online at: <https://www.irishtimes.com/news/health/why-are-25-of-confirmed-covid-19-cases-health-workers-1.4213198>
2. Open Source COVID19 Medical Supplies. Website. [Accessed March 28<sup>th</sup> 2020]. Available online at: [https://docs.google.com/document/d/1-71FJTml1Q1kjSDLP0EegMERjg\\_0kk\\_7UfaRE4r66Mg/preview](https://docs.google.com/document/d/1-71FJTml1Q1kjSDLP0EegMERjg_0kk_7UfaRE4r66Mg/preview)
3. Nemeth C, Laufersweiler D, Polander E, Orvis C, Harnish D, Morgan SE, et al. Preparing for an Influenza Pandemic: Hospital Acceptance Study of Filtering Facepiece Respirator Decontamination Using Ultraviolet Germicidal Irradiation. J Patient Saf [Internet]. 2020 Mar 12; Available from: <http://dx.doi.org/10.1097/PTS.0000000000000600>
4. <https://www.rcsi.com/dublin/coronavirus/surgical-practice> (Accessed March 28th 2020)