



INTERNATIONAL PERSPECTIVE

COVID-19 AND SAFE PATIENT HANDLING AND MOBILITY IN THE NETHERLANDS

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The COVID-19 pandemic started in the Netherlands at the end of February in the southern part of the country. That was the region where traditionally carnival is celebrated with a lot of people having fun in close physical contact. At the same time, there was an early spring holiday where people went to the northern parts of Italy for skiing. That region in Italy (Lombardy) was heavily affected by the coronavirus. Some people unknowingly became infected with COVID-19 and took it home with them. It is suggested that those 2 factors triggered the epidemic in the small and densely populated country of the Netherlands, although, it has been implied there were earlier cases that were probably COVID-19-related but were not diagnosed as such.

When the impact of the virus became clear, it was evident that it would turn out to be devastating, especially for the elderly and vulnerable population. It was also obvious that the healthcare system in the Netherlands would not be able to cope with the COVID-19 outbreak due to the limited bed capacity of intensive care units (ICUs) and the number of specialized healthcare personnel and equipment (like ventilators) available. For those reasons, the Netherlands went into a lockdown. This was, however, not as strict as the lockdown in countries like Italy and Spain; there were exceptions and the personal responsibility of citizens was emphasized. It was decided to call it a “smart” lockdown. With a few exceptions, it seemed to work, although the capacity of the ICUs remained a challenge. With special redesigns, a better regional redistribution of patients, and redirecting all ICU capacity to COVID-19 patients, the ICUs were able to cope. This put a very heavy physical and emotional burden on the medical personnel there. Retired nurses and all other healthcare personnel were called in to help. Special projects were started to find, register, and employ the desperately needed extra nursing “hands.” And the Netherlands neighbor, Germany, offered to help out with the ICU capacity. They have a much larger number of ICUs per capita, so a number of patients were transported to German ICUs and recovered there.

In the ICUs, the prone position is often chosen to facilitate breathing of the sedated COVID-19 patient. Placing the patient in the prone position needs to be performed with the right equipment according to the “Guidelines for Practice” that have been agreed upon nationally. In spite of that, it is still being carried out manually in some of the hospitals, using 4-6 nurses. The reason for this is most likely that the stress of working on this exceptional coronavirus front line is so high, and there are already complicated hygiene guidelines to comply with. To add ergonomic guidelines to these hectic procedures does not receive much priority; they are not a matter of life or death. This is understandable but disappointing.

Other facilities have overhead ceiling lift systems at their disposal covering all or most ICU beds. Overhead systems and the (in situ) slings are considered the first choice option for proning a patient. But, also in those facilities, the use of these systems is not optimal and they are underused. It seems that the staff have not received sufficient training on the techniques used for proning using the overhead system, and the healthcare teams working together are often ad hoc teams that have been matched for these exceptional circumstances. Retired nurses have been called back to assist and are not familiar with ceiling lifts. So these transfers are still performed manually even in the presence of overhead systems. The threshold to (re)train the transfer with the overhead system appears to be too high under the current work stress. This situation underlines the need for regular training for these complicated transfers when the pandemic is over. Hopefully that will prevent this situation for the future.

Finally, all sorts of sliding sheets are in use often in combination with linen (draw) sheets. This is by far the most common solution at the moment. The patient is more or less wrapped in a double set of linen sheets usually along with the pillows to facilitate breathing and avoid pressure ulcers. The patient looks more or less like a mummy and is turned stepwise by 4 nurses (2 on each side) with an extra person at the head of the bed coordinating and in control of the vital

signs and lines. The low-friction devices allow for a smooth and more or less easy transfer to the prone position or back to the supine position. Although it can be calculated that this transfer can be performed within safe ergonomic, biomechanical limits (3D SSPP 7.02), there are at least 2 ergonomic warnings from an occupational health perspective.

First of all, the tendency is to start the transfer with more force than necessary (Figure 1). This inevitably leads to smaller or larger undesired peak loads. Forces in excess of 80 N per nurse were found during these rather explosive transfers. The advice is to start the transfer with good timing, but also to slowly build up the force in the course of counting to 3. We call this gradual procedure: the 1, 2, 3 rule. This slow movement is not only preferred for the health of the nurses but also more comfortable for the patient and will result in lower shear forces under and on the skin of the patient.

Secondly, we are looking into the amount of grip that nurses need to perform this transfer (Figure 2). Currently, they more or less roll up the linen sheet to a small bundle to create a firm grip for their hands to pull the sheet with. From an ergonomic perspective, such a grip is far from ideal. The intense grip in combination with the relatively high forces exerted by the hands make the chances of developing carpal tunnel syndrome (CTS) high. The prevalence of occupational CTS is high and rising among nurses. Solutions are being sought to allow a more relaxed grip and also into options to push instead of pull on the sheets and/or the sliding sheets. After all, pulling is always the second best option as it always requires the hands to hold onto something. The hands can never be relaxed. All options with special pulling straps or loops have this drawback, perhaps with the exception of loops around the wrists or even back or shoulders. Pushing can be done with a relaxed hand and does not require extra forces to hold on to the sheet (no coupling). The difference can be seen in Netherlands' ergonomic guidelines where it is stated that any pulling force in excess of 50 N per hand must be avoided, whereas for pushing much higher acceptable limits are stated. New design developments in the near future on this issue are expected.

It is not only the ICUs that were and continue to be under exceptional stress. The ICUs were a focus of attention in the first phases of the COVID-19 outbreak, but slowly it became clear that the disaster of death and suffering was also present in home care and elderly care. The infection prevention guidelines in the nursing homes and home care were not as strict as in acute care. Also, personal protective equipment (PPE) like masks, gloves, and glasses were not sufficiently available in non-acute facilities. The impact of the virus on elderly and vulnerable patients resulted in a relatively high number of deaths. However, as not all these people were

Figure 1: Transfer force



Figure 2: Grip type



tested, the exact impact remains unknown.

Home care nurses were exposed to the virus and also lacked PPE. The supplies quickly ran out. These nurses decided to make their own masks to protect themselves and their patients (Figure 3). This was a rare and, some say, disturbing sight for a developed country like the Netherlands.

The other consequence of the virus was that the assistance people normally received from their professional caregiver at home was reduced and sometimes even cancelled for the time of the pandemic. Activities like washing, dressing, and toileting were reduced. This decision was made to protect the care recipient as well as to avoid spreading the virus via the healthcare workers who go from home to home. This more silent and less visible impact has led to problems for this group of dependent, mainly elderly patients. The fact that contact with family and others was not allowed resulted in even more loneliness and emotional suffering.

There are now multiple initiatives to help this group of patients. The loneliness and lack of social interactions was reduced by means of e-health applications and video-calls. Different solutions for physical contact with family and friends are now found in, for example, a hug-curtain (Figure 4). The lack of hygiene care by nurses coming into the home is now replaced with safe methods like washing without water or care cleansing (small package of pre-moisturized washgloves) performed by the patients themselves or a loved one.

The COVID-19 guidelines appear to be working well, and the curve has been flat for a few weeks now; the ICUs are

Figure 3: Community nurse making her own mask

Permission to publish photo granted by Locomotion.

Figure 4: COVID-19 hug-curtain

Source: www.jeugdjournaal.nl

able to tend to other patients again and are returning to normal. The guidelines are slowly reduced in strictness to give people more and more freedom and to get the economy going again. The developments are closely monitored and the testing capacity and the follow-up on positive cases is well

organized. Nevertheless, there are still new cases and every day a few people still die of COVID-19.

Attention is now moving toward the long-term consequences of the virus. Being ventilated on an ICU has an enormous impact on people and their capacity to return to their old life. Also, the virus itself appears to result in more damage to the lungs than was expected. More research is now being completed to identify these consequences and the treatment that is necessary. Apart from that, the long-term impact on healthcare workers that were and are in the front line is also a major concern.¹ Signs of PTSD are present in workers who have been in the front line.

And, finally, the impact that the pandemic has on the way people die and are buried becomes apparent. Not being able to say goodbye in the way expected and social distancing during these rituals can result in complicated or disturbed grief.

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AUTHOR GUIDELINES FOR ARTICLE SUBMISSION

Background to the journal:

The *International Journal of Safe Patient Handling & Mobility* (SPHM) is the first journal dedicated to providing a forum for the latest research and evidence on the how, why, and what of SPHM worldwide. Its readership is representative of all the professional groups involved in this field including nurses, therapists, risk managers, safety officers, researchers, consultants, and educators.

The *International Journal of Safe Patient Handling & Mobility* is blind peer reviewed and indexed in the Cumulative Index to Nursing and Allied Health Literature (CINAHL) Complete database.

What type of articles should be submitted?

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- Evaluation strategies for SPHM
- Lessons learned and reflections on the implementation of SPHM programs in individual facilities, organizations, or agencies
- Managing the change associated with implementing a SPHM program
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