COVID-19: a global pandemic - The newly vulnerable

- How has this changed the demographic of those vulnerable to skin damage?

Who are the newly vulnerable?

- COVID-19 patients
- Long COVID patients
- Patients experiencing delays planned care due to focus on COVID-19
- Patients avoiding seeking care in an emergency
- Healthcare professionals
- Clinically vulnerable
- Professional workers requiring personal protective equipment (PPE)

Jacqui Fletcher - Senior Clinical Advisor Stop the PRessure Programme December 2020

Huge differences in how patients have reacted, some avoid health care professionals – in case we are carriers of COVID, others panic and seek reassurance from HCPs. Overlay this with reduced staffing numbers, some shielded, some self isolating, some with COVID others sick due to burn out and stress.
There is a significant impact on the NHS and what we are able to deliver

The newly vulnerable

Consider:

What does this mean

- in your clinical practice?
- in your professional role?
- in your personal life?

Jacqui Fletcher - Senior Clinical Advisor Stop the PRessure Programme December 2020

Do you feel conflicted between your personal views and what is required of you professionally? How are you managing this?

in your clinical practice?

What is expected of you by your patients, residents, clients. What is your responsibility to them?

in your professional role

What is expected of you by your colleagues and team members, what do you need to do to ensure your personal safety and physical and mental health and well being. What is your responsibility?

in your personal life

What is expected of you by your family, friends, and those in a social environment? What is your responsibility to them?

Should you speak to everyone wearing a mask incorrectly, should you advise on the vaccine? How onerus is this for you?

Who are the newly vulnerable?

- Active elderly
- Young/fit COVID- 19 patients
- Critical care patients
- COVID-19 survivors / Long COVID patients
- Healthcare professionals and others suffering facial damage due to PPE
- Those carrying out different roles

Active elderly who are isolating, less active

Young/fit Covid-19 patients

Critical Care patients. Proning, medication, sepsis, multi-organ compromise, length of stay

Long term affects of Covid-19 on survivors

HCP suffering facial PUs due to PPE (not always realising)

Newly At Risk Patients

- Active elderly
  - Fewer co morbidities
  - Change in their norm
- Young/fit Covid-19 patients
  - No previous co morbidities
  - No experience of ill health
  - No awareness of risk
  - Significant change in their norm

Jacqui Fletcher - Senior Clinical Advisor Stop the PRessure Programme December 2020

Active elderly who are isolating, less active, they may have little or no experience of chronic ill health so will be unaware of risks such as PU

Young/fit Covid-19 patients, as with the active elderly, this is new territory for them, how do you explain to someone who has previously been very fit and well that they may be at significant risk and that simple actions like laying on the sofa watching TV because they are too exhausted / feel too unwell to do anything else, may give them a PU

New Risks

- Critical care patients
  - Increased use of prone – new body areas to protect / assess
  - Increased use of inotropes
  - Muscle wastage and weight loss

Critical Care patients. Proning, medication, sepsis, multi-organ compromise, length of stay

Long COVID patients

- Relatively new phenomenon
  - Under researched
  - Not well recognised
- Could be a collection of 4 syndromes
  - Post viral fatigue
  - Fluctuating multi- system symptoms
  - Lasting organ damage
  - Post-intensive care syndrome
- The fluctuating and multisystem symptoms need to be acknowledged. A common theme is that symptoms arise in one physiological system then abate only for symptoms to arise in a different system
- There are significant psychological and social impacts that will have long-term consequences for individuals and for society if not well managed

https://evidence.nihr.ac.uk/themedreview/living-with-covid19/

Long COVID has only hit the media since about July 2020, whilst it manifests in many ways with similar symptoms to other post viral syndromes especially ME, those experiencing and researching it are clear that this is very different, with a much wider range of symptoms and long duration.

https://www.longcovid.org/about

The www.longcovid.org website gives some good insight into what the symptoms may be and the impact they have on individuals.

Resources

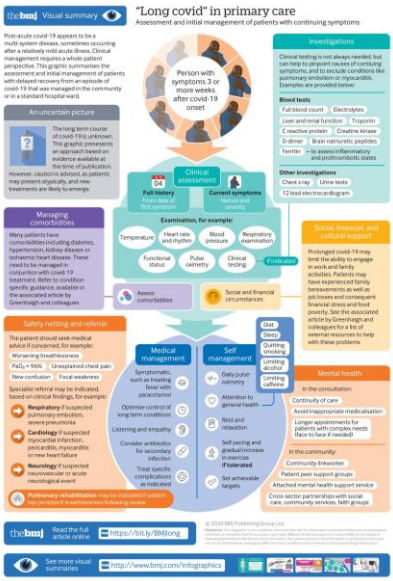
The UK Sepsis Trust have excellent written resources, a helpline and informative videos
Post COVID 19 Patient Information Pack - Homerton University Hospital NHS Foundation Trust
Recovering from COVID 19: Post viral fatigue and conserving energy - Royal College of Occupational Therapists
Post COVID Hub - Asthma UK and British Lung Foundation

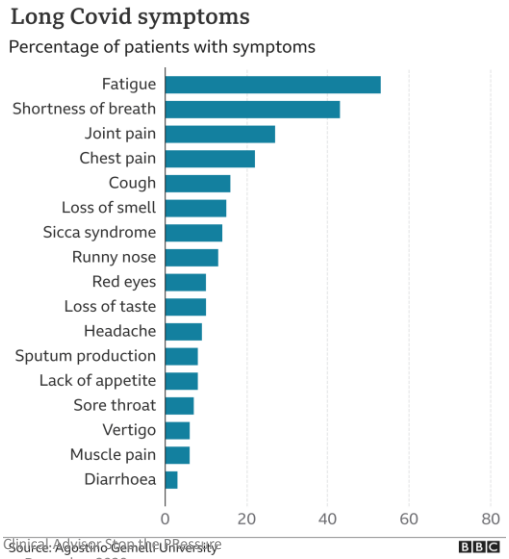
Below are other websites and links that may be of interest
COVID Symptom Study app, a rich source of data and research from King's College London and health science company ZOE
Long Covid Kids - a UK-based but international parent and patient-led campaign and support group
Body Politic - an international support group for sufferers of Long Covid hosted on the Slack platform
COVID 19 Recovery Awareness - a US based site including details of international peer support groups and research projects
Covid 19 Recovery - a UK based site including patient stories and a resource library
LongCovidSOS - set up by the UK arm of the Body Politic group, and including a powerful film

https://www.longcovid.org/resources

There is a wealth of resources for those interested

Long COVID patents

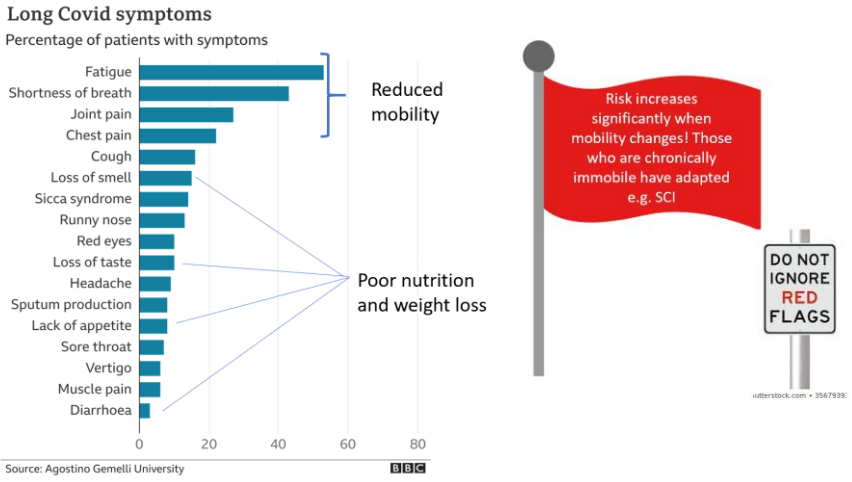




Jacqui Fletcher - Senior Clinical Advisor Stop the Pressure Programme December 2020

We are starting to see better recognition of long COVID with initial guidance being put in place for example this pathway for use in primary care which is available via the BMJ. However it is important that we start to consider the impact of the symptoms in terms of pressure ulcer risk.

Long COVID patents



Jacqui Fletcher - Senior Clinical Advisor Stop the PRessure Programme December 2020

Whilst many of our chronically sick patients with multiple co morbidities and poly pharmacy may experience this range of symptoms on a daily basis they have often developed over time, allowing them to develop coping mechanisms / strategies, and it is highly likely that they will have been in regular contact with with many different healthcare professionals who will (we would hope) have provided appropriate information on risk management. For many of the long COVID patients they have little experience of this type of deterioration in their health. Remember a key risk (and prompt to reassess risk) is a change in the patient's condition.

Clinical staff and others wearing personal protective equipment

Jacqui Fletcher - Senior Clinical Advisor Stop the PRessure Programme December 2020

Newly vulnerable

Nurses Aimee Goold (left) and Alessia Bonari (right) posted photos on social media that show the impact of wearing PPE for extended periods

We do not know the full impact on staff skin of wearing PPE

Jacqui Fletcher - Senior Clinical Advisor Stop the PRessure Programme December 2020

This and similar images were spread across the media during the1st wave of COVID. Whilst there were many who experienced similar skin damage, our experience in the UK was fortunately not as bad as had been seen in other countries

Close contact services

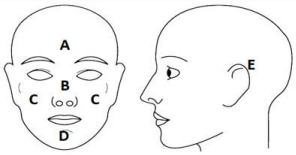
Professional people returning to work (public facing) wearing role-specific PPE and frequent hand washing

Jacqui Fletcher - Senior Clinical Advisor Stop the PRessure Programme December 2020

Remember it is not just HCPs who are at risk because of wearing PPE! Many others wear PPE for long periods of time this includes hairdressing, barbershops, beauty and nail bars, makeup and tattoo studios, tanning salons/booths, spas and wellness businesses, sports and massage therapy, well-being and holistic locations, dress fitters, tailors and fashion designers amongst others. More recently also included all of the general public when out in public – and we have all seen some spectacular examples of ‘ poor mask technique’.

Facial skin damage

- Not just PU
  - Redness
  - Irritation
  - Spots
  - Dry skin



Pattern of distribution

Jacqui Fletcher - Senior Clinical Advisor Stop the PRessure Programme December 2020

What do we know about facial skin damage related to masks?
The medical device and vulnerable skin network team from the University of Southampton collected data during wave 1 of COVID on reports of skin damage from multiple organisations. They identified the most common areas damage occurred and the type of damage which was not just about pressure ulceration

Not just FFP3

- **Moisture** – When confined beneath the fabric of a mask, your breath creates a humid environment.
- **Bacteria** – Sweat, oil, and makeup can become trapped under the mask and clog pores. And bacteria is constantly being reintroduced into your skin thanks to your hands. Every time you adjust your mask or even just put it on, you're introducing pore-clogging oil and dirt into your pores from your hands.
- **Friction** – As you go about your day, your mask moves around your face, damaging the skin's protective layer, sometimes without that protective barrier, it's easier for bacteria and grime to settle into your pores and cause acne
- **Warm weather** – Heat and humidity can exacerbate acne, inside *and* outside the mask. Higher temperatures increase your face's sweat and oil protection. And the more oil and sweat, the easier it is for bacteria to turn into blemishes.
- **Cold weather** – Your mask can make maskne in heat or sleet. Cold weather can dry out your skin, making it easier for the mask to chafe the skin and break down and welcome pimple-causing irritants into your pores.

https://nextstepsinderm.com/derm-topics/how-to-treat-face-mask-acne-maskne/

It is not just FFP 2 and FFP3 mask that result in skin damage, many of those wearing surgical masks have also developed skin problems. This is particularly prevalent in the general public who may use the same mask for hours / days on end without washing it and without good skin hygiene .

What does the evidence say about preventing skin damage?

- So far little evidence
- Many sets of guidance
- Recent data (*MDVNS in press*) suggests that wear time / taking breaks is a key factor in the occurrence of skin damage

We have little strong evidence to date (December 2020). During wave 1 many sets of guidance were produced often with conflicting information. In England the original guidance (April 2020) cautioned against use of products under FFP 2 and 3 masks but did give information on how to select a product if it was deemed necessary. However the guidance has since been reissued (August 2020) and specifically states that dressing products should not be used underneath FFP 2 or 3 masks. This is in line with guidance from the Health and Safety Executive who advise that as mask manufacturers can not guarantee the seal of the mask when dressings are used we can not recommend them. This does not mean that dressings can not be used under surgical masks – here the seal is less crucial.

Whilst the reality of clinical practice means that breaks may be difficult to take – they are a crucial element of prevention of harm – and general staff health and well being

Fit and seal with dressings

- There is little evidence of how products affect the seal
- Anecdotal information and 2 recent paper suggest for some correctly applied products MAY not compromise the seal
- Unfortunately the majority of papers only look at PU non occurrence – NOT the impact on the seal

Jacqui Fletcher - Senior Clinical Advisor Stop the PRessure Programme December 2020

There are several papers recently published (alongside guidance from other countries) which recommend use of particular dressing products and advise how they should be cut and placed for maximum benefit. This is currently NOT recommended or supported in England.
Of the papers that have been published the majority have a single outcome – occurrence / prevention of skin damage. Whilst this is obviously of great importance it is of lesser importance than maintaining the mask seal and preventing viral ingress. To date (December 2020) only 2 papers have looked at both outcomes, we can cautiously say so far that both outcomes have been positive – but the studies are small in scale and more work is required.

PPE: helping prevent facial skin damage

- Keep skin moisturised
- Regularly inspect your skin for signs of redness/soreness
- Take regular breaks
- Stay well hydrated
- Allow your skin to recover

N.B. NHS England and NHS Improvement documentation updated

Jacqui Fletcher - Senior Clinical Advisor Stop the PRessure Programme December 2020

Ensure you have been correctly fitted for the equipment that your organisation uses.
Always follow the guidelines for donning and doffing.
It is recommended that you keep your skin clean and well hydrated/moisturised – apply creams at least 30 minutes before applying PPE.
Consider use of a barrier skin wipe/skin protectant if you are likely to be wearing PPE over multiple periods. This will not protect your skin from over-tightening but may protect it from increased moisture. Check the barrier product does not build up residue under the mask.
Take time to fit your mask before starting a clinical consultation.
Ensure all folds in your mask have been used to optimise the correct fit for you and do not over-tighten.
If you feel your mask is digging in, move away from direct patient contact, remove the mask using doffing guidance and allow the skin to recover for approximately five minutes.
Replace your mask with a new one ensuring a good fit.
It is important that you take regular breaks (we recommend every hour) from wearing a mask to relieve the pressure and reduce moisture build-up.
Where possible, rotate in teams where FFP3 can be removed between clinical shifts. This will help allow the skin time to recover.
Stay well hydrated throughout the day.

Caution: Skin protectants and emollients with white soft paraffin are flammable. You are advised not to smoke with them present on your skin

Things to consider for prevention of skin damage are:

- The careful application of masks/visors at the donning stage, ensuring the PPE fits well, but isn't too tight, or consider the use of a filtering hood.
- Any change to the mask used must always be formally assessed to be correctly fitting and effective; local policy for fit testing must be adhered to at all times.
- Rotating staff away from a PPE wearing area, where possible.
- Looking at shift patterns to build in longer off-duty spells.
- Careful removal of PPE at the doffing stage to ensure skin that has been under the PPE is not damaged at this point.
- This includes taking care when cleansing the skin after wearing PPE.
- Avoid wearing makeup as it can clog the skin and may damage the mask seal

Jacqui Fletcher - Senior Clinical Advisor Stop the PRessure Programme December 2020

All organisations should now be keeping detailed records of which products staff are fit tested against, the results are specific to that mask type ONLY. You should make note of which mask you have been tested with and which work best for you. If the correct FFP 2 FFP 3 mask is not available DO NOT just use a different one, flag this to your manager and you should be reassigned to work in an area where FFP 2 and 3 are not required until the correct equipment is available or you have been fit tested with the new equipment.

Remember to fit check your mask each time you wear one.

"Help yourself first, then help others!"

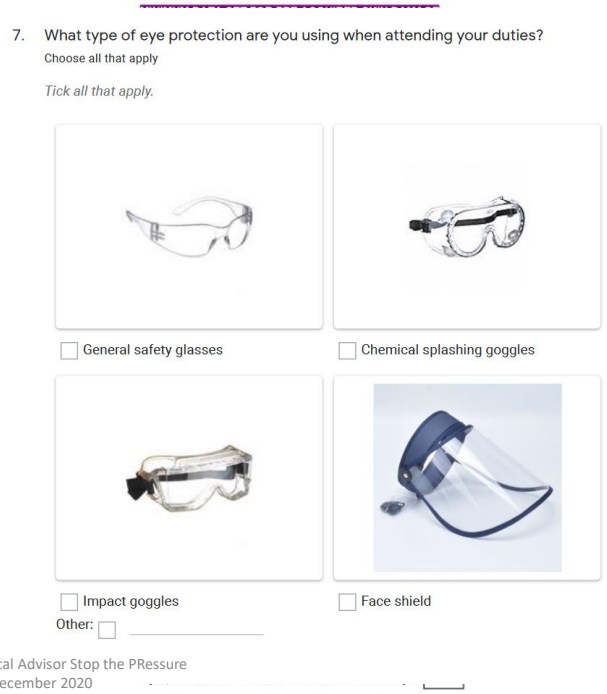
	Action	Rationale
H	**H**ydrate your body effectively in your off time (drink at least 2 L water/day)	Well-hydrated skin is more resistant to skin breakdown[5]
	Hygiene of your face and hands through cleansing and moisturizing in off time	Well-maintained skin has less risk for skin breakdown and irritation[9]
	Hours in personal protective equipment (PPE) accounted for (4 or 6 hours depending on work intensity)	Facial pressure is cumulative over time; less pressure, longer time/higher pressure, less time before skin breakdown[8, 11] Mask-induced hypoxia possible in HCPs[19, 20]
E	**E**at a sufficiently nutritious diet in off time	Protein calorie malnutrition associated with increased risk of pressure injuries[6]
	Eat or drink **NOTHING** when in PPE	Shifts of 4 hours for nurses and 6 hours for doctors, nil per month in PPE, resulted in zero infection among staff[7]
	Empty your bladder before donning PPE	Zero bathroom breaks while in PPE also resulted in zero infections[7]
L	**L**otion with acrylates applied on the nose, cheeks, forehead, and hands 10 minutes before donning PPE	Acrylate layer protects against interaction between skin and PPE facilitated by vapor and sweat moisture build-up[10]
	Leak test passed **every time** after application of N95 mask	Standard coronavirus precaution[1]
P	**P**rotective atraumatic layer applied over the nose, on the cheeks, under the chin, and on the forehead and sides of the face **before** donning PPE.	Atraumatic dressings are a routine, evidence-based intervention for patient pressure injury protection[8,11,12]
	PPE applied [illegible]ers, with most rigid pieces [illegible] the softer layers	Layers add pressure but can be used to redistribute pressure to offload bony facial prominences[5,8]

If you are 'borrowing' a resource – ensure it conforms to guidance – this does not

There are many posters and similar aides available here are 2 examples

Reporting staff skin damage

- Ensure your incident reporting system is configured to reflect that this is staff harm NOT patient harm
- Consider sharing your data with the MDVSN in Southampton – they have a minimum data set you would need to collect.



Jacqui Fletcher - Senior Clinical Advisor Stop the PRessure Programme December 2020

It is important that staff and patient harm are not confused.
Consider sharing your data with MDVSN you can do this by contacting Jacqui Fletcher in the Stop the Pressure Team , this will help us to build a profile of what is happening nationally.
Jacqui.fletcher@nhs.net

Hand care

- A growing problem not just for HCPs
- Remember everyone should be washing their hands much more frequently
- There is increased use of alcohol based hand gels

Hand irritation

- Has not been measured well
- Increased glove use
- Over reliance and over use of gloves
- Increased hand washing
- Increased use of gel

www.rcn.org.uk/skin-health

NHS E and I have not produced new guidance as there is an excellent suite of information that has been produced by the RCN.
Think about who else this information may be relevant to, do you have friends or family who are teachers? Do you watch your own children wash their hands?
What about all those other people who are now mask wearers because they interact with the general public?
This guidance available from the RCN comes in summary forms such as the poster, but also much more detailed documents which include the evidence for the statements, standards and audit tools.

Common mistakes during handwashing

- Applying soap to dry skin
- Failing to rinse adequately
- Failure to dry properly

- **Moisturisers**
  - Products should be dye and fragrance free.
  - Oil based moisturisers are not recommended.
  - Water-based are best and most compatible with glove use.
  - Use at the start and end of the shift as well as at break times.
  - Should always be used on clean hands.
  - Application of moisturisers should be to the back of hands & fingers and inter digital spaces
  - hand cream should be single person use not a shared/communal pot/tub.

Jacqui Fletcher - Senior Clinical Advisor Stop the PRessure Programme December 2020

There are however some key pointers for clinicians of things you may wish to raise or prompts to make

Soap should not be applied neat to skin – it is a chemical, wet the hands first, this also helps to distribute the soap.

Changes in roles

Clinical practice

- Student nurses
- Healthcare professionals working in different fields
- Community nursing teams

We have seen many different ways of working during COVID, student nurses stepping up into clinical placements, healthcare professionals merging previous boundaries for examples podiatrists taking on compression, and specialist nurses such as TVNs being redeployed into community teams.
Whilst for many this has been a very positive experience, giving TVNs chance to review wound care practices etc. for others it has been scary. Theatre and outpatients staff found themselves in areas such as critical care, their knowledge and experience around risk assessment and skin assessment may need considerable updating . Whilst this may not put the staff members at risk of skin damage it may increase the vulnerability of their patients.

Raising the profile of the newly vulnerable

Helping prevent facial skin damage beneath personal protective equipment, NHS England NHS Improvement 9 April 2020 Publications approval reference: 001559

Update to device-related pressure ulcers: SECURE prevention. Covid-19, face masks and skin damage. Gefen and Ousey. *Journal of Wound Care* 29(5). May 2020

Woman and Home June 2020

Local responses, NHS providers

Jacqui Fletcher - Senior Clinical Advisor Stop the PRessure Programme December 2020

We all have a responsibility to both be aware ourselves about these newly vulnerable groups – and also to flag them to colleagues

Heading

- Usually written in Arial, 12
- Try to keep bullet points to no more than 6