

# Guidance on Conscious Proning during Covid-19 Outbreak.

Authors: Angela May-Senior Respiratory Physiotherapist

Joanna Smedley- Senior Respiratory Physiotherapist

Peer review: Dr Clare Hooper- Consultant Respiratory Medicine

Dr James France- Consultant Emergency Medicine

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**This guide has been written to support staff to assist patients to prone.  
There is an additional patient information booklet to print which provides  
advice to patients about prone positioning.**

## **Introduction**

The opinions expressed are those of the authors based upon 'The Faculty of Intensive Care Medicine' proning guidance, anecdotal evidence from London Trusts and adapted from North Devon Healthcare NHS Trust. The advice has been developed for use at Worcester Acute Hospitals NHS trust as currently there are no guidelines on the prone positioning (proning) of self-ventilating patients. There is a growing body of evidence that proning self-ventilating patients can increase oxygenation and decrease the need for invasive ventilation [1,2]. There are currently only small cohort studies for the use of proning in self-ventilating patients, however emerging anecdotal evidence from London Trusts have shown good outcomes in reduced need for invasive ventilation, delayed invasive ventilation and reduced mortality.

## **Disclaimer**

Neither Worcester Acute Hospitals NHS Trust or the authors accept any responsibility for any loss or damage arising from actions or decisions based on the information contained within this publication. Each individual case should be risk assessed by those caring for the patient.

## **Indications**

Consider proning in patients with suspected/confirmed Covid-19 and:

- FiO<sub>2</sub> ≥28% or requiring basic respiratory support to achieve SpO<sub>2</sub> 92% (as per current trust guidelines) or 88-92% if risk of type II RF
- Within the early stages of CPAP (ideally <48 hours) once CPAP has been optimised. CPAP should only be commenced in specified areas as per trust guidelines.

**Patients should have a clear escalation plan if CPAP and proning does not improve the situation, which must be documented in the medical notes. Patients should have a review as per CPAP respiratory guidelines.**

## Contraindications

### *Absolute*

- Need for immediate intubation
- RR >40
- Spinal instability
- Recent abdominal surgery
- Agitation/unable to tolerate

### *Relative*

- Head injury
- Frequent seizures
- CVS instability
- Morbid obesity
- Pregnancy 2<sup>nd</sup>/3<sup>rd</sup> trimester

## Preparation

### *Pre-procedure*

- MDT discussion of risks vs benefits
- Ensure no contraindications
- Discuss procedure with patient
- Ensure any outstanding investigations and procedures that may be difficult to perform in prone have been considered.

### *Airway/Breathing*

- Full PPE as per trust guidelines when treating patients with CPAP or if likely to cough (AGP) during procedure.
- If using a CPAP mask ensure it is securely fitted
- Suction should be available if needed
- Full set of observations prior to manoeuvre
- Pre-oxygenate patient if risk of desaturating
- **If there is a risk of the mask becoming detached during proning, consider turning off CPAP if safe to do so.**
- Turn patients towards the CPAP machine

### *Lines/Tubes*

- Ensure all lines are secure with adequate length to move
- Disconnect non-essential infusions and monitoring

- **If patient becomes cardiovascularly unstable, return to supine and seek medical attention.**
- NG feeds should be stopped and aspirated, ideally 1 hour prior to proning, and NG length documented.
- Catheters positioned for patient comfort
- Once in position restart all infusions.

### ***Skin/eyes***

- Nursing staff to document skin integrity

### ***Staffing***

- Patients should be able to get into prone position independently or with minimal assistance, therefore 1 or 2 members of staff should be required, but will vary with attachments and should be risk assessed for each patient.

### ***Bed position***

- Place bed flat or in reverse Trendelenburg position, 30° head up to minimise developing facial odema and reflux, as well as raised orbital/ophthalmic pressure.

### ***Pillows***

- Under head
- Under chest- breast supported and free from pressure
- Across pelvis-pressure off abdomen
- Under shins (optional)-reduce pressure on knees and ankles
- Vary with patient preference and comfort

### ***Patient position***

- Patients should be in any prone position that is comfortable to improve compliance, including semi prone, with pillows as above.
- When the patient needs to change out of prone, other positions to use are alternating side lying, sitting with head up at 60° in bed or sitting out as able.
- **Ideally the patient should return back to prone position every 4 hours to maintain benefits gained in prone.**
- Male genitalia between the legs
- Ensure catheter, lines, drains and tubes not under patient or causing pressure areas or pulling.
- Patient's arms can be in a position as comfortable for them.

## **Emergency Situations**

In case of cardiac arrest follow the trust protocol. Leave the patient in prone position.

### ***Chest Compressions***

These should be performed over the mid thoracic spine using a two handed approach as you would for sternal compressions. A second person can apply counter pressure to the sternum by sliding a hand under the patient's chest if required.

### ***Defibrillation***

Pads should be placed either postero-lateral (left mid axillar and other over right scapula) or bi axillary (right and left mid axillar)

Return patient to supine as soon as it is safe and there are enough staff.

## **Recording Patient Progress**

- When the patient changes position their saturations, oxygen, CPAP and RR need to be recorded
- Observations should also be recorded at 15 and 30 minutes after position changes to ensure oxygen saturations have not decreased.
- If patient remains stable document observations as standard procedure
- If patients deteriorate follow escalation plan as documented

## **References**

[1] Scaravilli V et al. Prone positioning improves oxygenation in spontaneously breathing non intubated patients with hypoxemic acute respiratory failure: A retrospective study.

Journal of Critical Care 2015; 30: 1390-1394

[2] Perez-Nieto O et al. Prone positioning combined with high flow nasal cannula in severe non infectious ARDS.

Critical care 2020; 24:28.

### ***Additional reading***

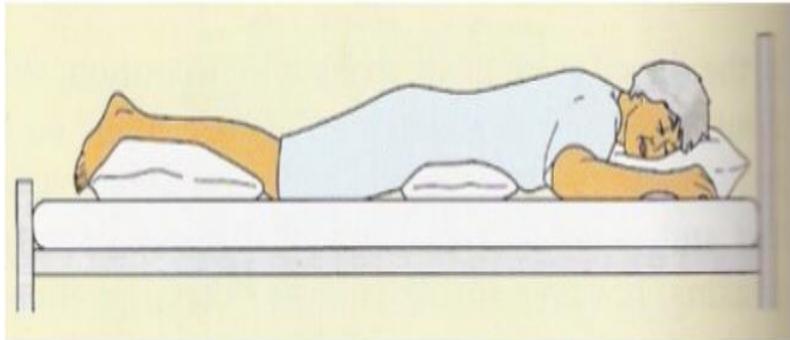
Intensive care society Patient information sheet for “Conscious Proning” 2020

ACPRC Guidance for proning in ventilated and self-ventilating patients

## Appendix 1

### PRONE POSITIONING ADVICE SHEET FOR STAFF

- Prone position means lying a patient onto their front.
- It has been shown to be beneficial in improving oxygenation in patients by opening up areas of collapse in the lungs and aiding secretion clearance.
- It can be used in combination with other treatment modalities such as oxygen, CPAP or NIV.
- It should be considered in **all** self-positioning patients.
- Pillows should be used under hips, chest and forehead but more can be needed for comfort.
- If patients are unable to tolerate full prone position, they can try semi prone using pillows to support.
- If needed patients can be helped into this position, **as long as they can access help to change position when needed.**



**Prone position**



**Semi prone position**

- If the patient is using NIV or CPAP, care must be taken to avoid increasing mask leak.
- Patients can remain in this position as tolerated.
- Ideally the patient should return to prone every 4 hours to maintain benefits gained
- Side lying on both sides, sitting out and sitting up to 60° are other beneficial positions to use.
- Please update the nursing charts with the patient's position so we can monitor effects on saturations and oxygen requirements.



**Appendix 2**

**Patient Positioning Goals**

**Patient.....**

Aims / Plan

1)

2)

3)

4)

KEY

R – Right Side lying	L – Left Side lying	P - Prone
S – Supine (lying on back)	SO – sat out	SU – Sat up in bed

**Appendix 3**

**Positioning Chart**

- All patients must be assisted to get into a prone or semi prone position at least twice a day and remain in this position as long as tolerated.
- They must return to prone after 4 hours in a different position.
- This is to maintain benefits gained in prone.
- Please document showing position of patient as per key below.

Time	Date						
00:00							
01:00							
02:00							
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KEY

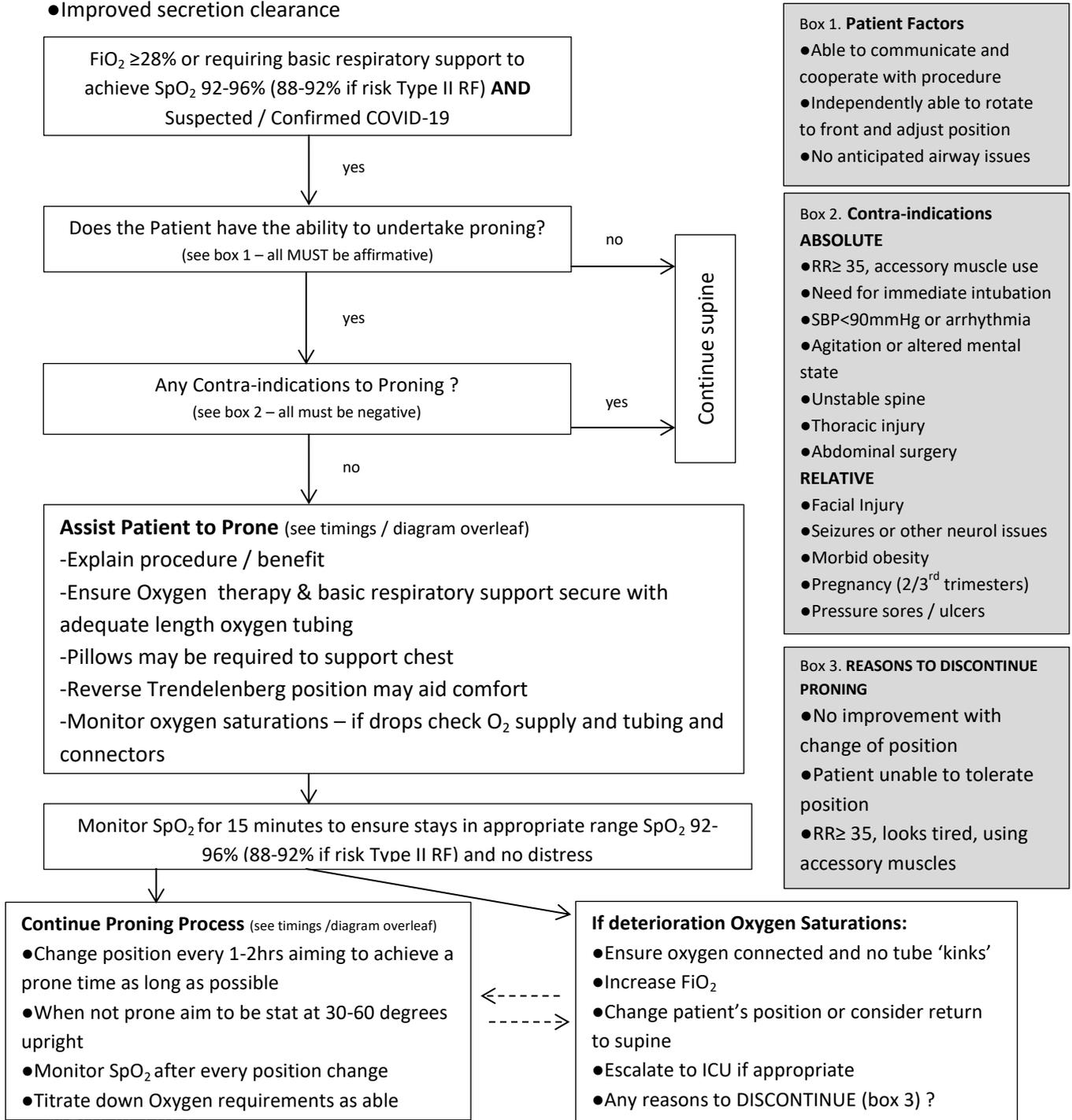
R – Right Side lying	L – Left Side lying	P - Prone
S – Supine (lying on back)	SO – sat out	SU – Sat up in bed

## Appendix 4

### WRH Emergency Department Guidance Conscious Proning during COVID-19 Outbreak

Consider Conscious Proning for suitable patients (trolley / bed) in the ED who might benefit from this simple intervention, assuming the patient is conscious, cooperative, can self-prone independently and no contra-indications exist. Experience elsewhere suggests conscious proning may delay or even avoid the need for intubation in some cases. **Benefits:**

- Improved V/Q matching and reduced hypoxaemia (secondary to more homogeneous aeration of lung and ameliorating the ventral-dorsal trans-pulmonary pressure gradient)
- Reduced shunt (perfusion pattern remaining relatively constant while lung aeration becomes more homogenous)
- Recruitment of the posterior lung segments due to reversal of atelectasis
- Improved secretion clearance



## Timed Position Changes:

If patient fulfils criteria for proning ask the patient to switch positions as follows.

Monitor oxygen saturations 15 minutes after each position change to ensure oxygen saturation has not decreased.

Continue to monitor oxygen saturations as per the National Early Warning Score (NEWS)

- 30 minutes to 2 hours lying fully prone (bed flat)
- 30 minutes to 2 hours lying on right side (bed flat)
- 30 minutes to 2 hours sitting up (30-60 degrees) by adjusting head of the bed
- 30 minutes to 2 hours lying on left side (bed flat)
- 30 minutes to 2 hours lying prone again

These instructions are for patients who have been advised to undertake "Conscious Proning"

Please try to not spend a lot of time lying flat on your back. Lying on your stomach and in different positions will help your body to get air into all areas of your lungs.

It is recommended to change your position every 30 minutes to 2 hours rotating as below. Please note sitting up is better than lying on your back;

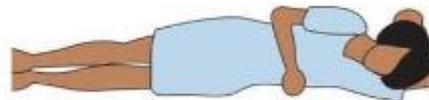
1. 30 minutes – 2 hours: lying fully prone on your stomach (bed flat)
2. 30 minutes – 2 hours: lying on your right side (bed flat)
3. 30 minutes – 2 hours: sitting up (30-60 degrees) by adjusting head of the bed
4. 30 minutes – 2 hours: lying on your left side (bed flat)
5. Then back to position 1 and continue to repeat the cycle.

### In pictures:

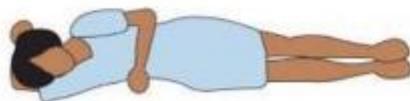
1. 30 minutes – 2 hours: lying fully prone (bed flat)



4. 30 minutes – 2 hours: lying on your left side (bed flat)



2. 30 minutes – 2 hours: lying on your right side (bed flat)



5. Then back to Position 1. Lying fully prone (bed flat)



3. 30 minutes – 2 hours: sitting up (30-60 degrees) by adjusting head of the bed

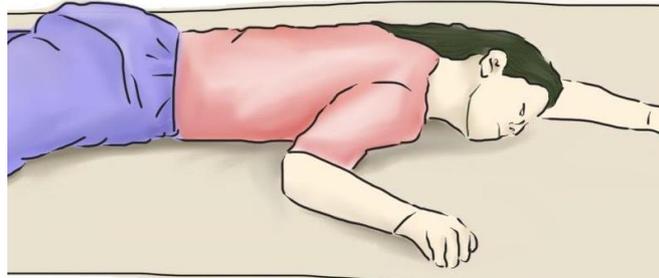


Sources: ICS Guidance for Prone Positioning of the Conscious COVID Patient 2020. <https://emcrit.org/wp-content/uploads/2020/04/2020-04-12-Guidance-for-conscious-proning.pdf>

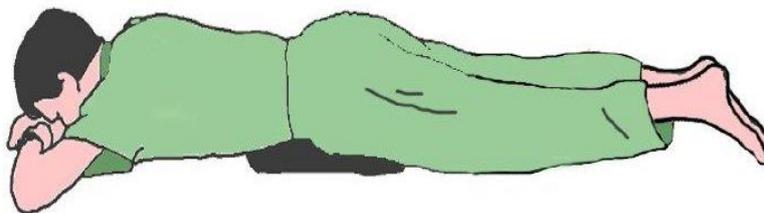
<https://www.embeds.co.uk/wp-content/uploads/2020/04/Self-Prone-Positioning-leaflet.pdf>

## Appendix 5

### Information on why we lie a patient on their front “Prone”



**What is lying ‘Prone’?** – you may be advised by medical professionals that lying on your front for a period of time will be beneficial to the long-term recovery of your lung tissue. It has been shown to reduce a patient’s need for oxygen and breathing support. The process of getting a patient onto their front is known as proning.



**Why do we turn patients into the prone position?** - Some patients develop problems with their lungs which makes it very difficult for them to receive enough oxygen. Lying on your front can help to improve ‘ventilation’ and get more oxygen into the body, by opening up areas in the lungs that might have been squashed when you are lying on your back. You can use this position whilst wearing your oxygen or tight fitting CPAP mask.

Finally, this position will help move phlegm that may be present in your chest and make it easier for you to clear it.

**Available evidence suggests that prone positioning must be considered early in the treatment process for best outcomes. This is why it may be suggested as part of your treatment on the ward.**

Try and stay in this position for as long as you can manage, but do change positions regularly. You should return to the prone position throughout the day, ideally after 4 hours in other positions.

Other positions that are useful when not in prone are lying on your side, sitting up to 60° or sitting out of bed. Please ask the staff if you need advice or some help getting comfortable.



If you can't manage fully on your front, try side lying and rolling forward onto pillows as far as you are able to. Side lying is also a good position to improve your breathing.