The Gauteng ICU group: Therapy of CoVID 19- Version 10 **14/7/20/20**

GA Richards Emeritus Professor Critical Care

0832668378

Guy.richards@wits.ac.za

M Mer Associate Professor Critical Care

0834881200

Mervyn.Mer@wits.ac.za

The following represents the treatment protocol devised at CMJAH and which is being used by the Gauteng ICU group. This schema is subject to change as new evidence emerges.

Prophylaxis: we believe there is no value in chloroquine prophylaxis- There may be value in nutritional supplementation.

Vitamin D 4000IU daily or 50 000 weekly x 4 then monthly

Nicotinic acid 25-50mg daily

Zinc 20-50mg daily

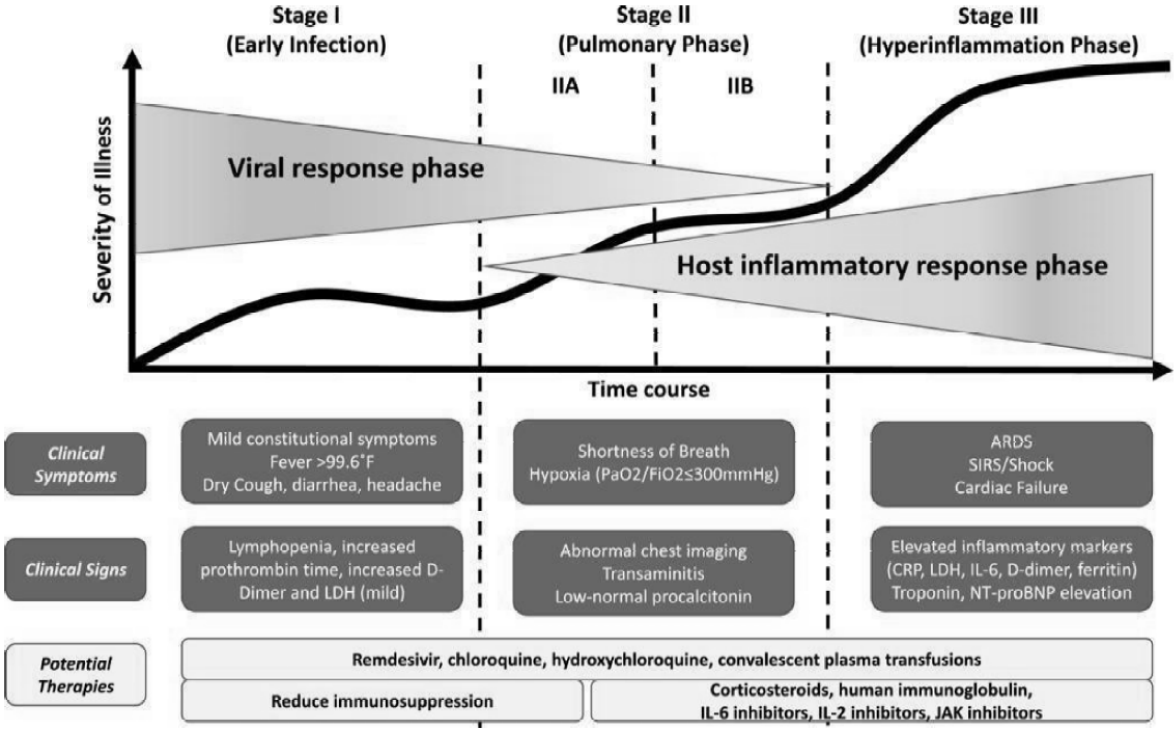
Have added colchicine though small study and uncertain benefit- however we have been using it for a while

We believe that the benefit of dexamethasone is a class effect and that it doesn't matter which steroid is used: Dexamethasone comes in 8mg ampoules:

8mg dexamethasone = 30mg methylpred= 40mg mg prednisone =Hydrocortisone 200mg daily

The tocilizumab or polygam will be for a small percentage of patients that are not improving despite Standard of care but in particular corticosteroids and anticoagulation. Tocilizumab use is off label and

requires patient or family consent. If used, the Roche form for off label use must be filled in and please can Brian Levy be informed as he is collecting data retrospectively. brian@plexsys.co.za



Clinical Classification	Presentation	Supportive treatment	Antiviral Treatment	Anti-Inflammatory treatment
Asymptomatic		None: Monitor	None	
URT symptoms	Fever, sore throat, cough; no dyspnea or tachypnea; saturation normal	Vitamin D 50 000 units stat Zinc 20-50mg daily x 5 days Nicotinic 25mg-50mg daily Vit C 500mg tds Thiamine 100mg daily	None	Paracetamol
URT symptoms +age >65 ± comorbidity OR LRT symptoms ± pneumonia on CXR	Fever, dyspnea, Tachypnea, crackles saturation <90% P/F ratio <300 Hypokalaemia	As above Oxygen therapy	Plasmoquine is unlikely to be of any benefit	Paracetamol **Full anticoagulation** Xa guided (0.6-0.8) **Corticosteroid:** Hydrocortisone 100mg stat then 50mg 6hrly **or** Dex 8 Mg BD x 1 then 8 mg dly **or** Methylpred 40mg BD x 1 then 40mg dly **or** Prednisone 40mg BD x 1 then 40 mg daily **Colchicine** 1.5mg stat then 0.5mg BD Consider heparin/ dornase nebs
Severe symptoms	Tachypnea, cyanosis, saturation< 90%, P/F ratio < 200; Mechanical ventilation Hypotension, Hypokalaemia, organ dysfunction CRP >150 and rising; D Dimer rising Il-6 > 80 if available IL_6(pg/ml)/lymphocyte (10^6/ml) ratio> 50 APACHE II >17	As above ICU: High flow nasal Try self proning Mechanical ventilation ECMO if resources allow-Mostly will not be possible	Remdesivir when available	Therapy as above: **If deteriorating**: CRP rising; sat worsening or requires intubation on admission consider in addition to above: **Tocilizumab** 400mg IVI over 60mins x 1 dose Or if unavailable Polygam 24g x 3 days Review with expert group
Cardiac failure/myocarditis	Gallop Reduced EF Troponin elevated	As above	As above	Polygam 24g daily x 3 Methylprednisone 250 daily x 3

Refractory Hypoxaemia:

Aim to reduce FiO2 which may increase reactive oxidant production and cause pulmonary fibrosis

If on HFN and resp rate > 26 or sat < 90% consider mechanical ventilation

1. **With persistently elevated CRP/IL-6: If infection excluded**

   Increase dose of steroid dose-methylprednisolone 125mg 8hrly x 2 days and assess response

   Consider adding heparin nebs 5000U BD (monitor Xa and aPTT

2. **With low inflammatory markers:**

   Consider adding heparin nebs 5000U BD with physio and aggressive suctioning

   Consider bronchoscopy to assess if plugs

NB

1. Not all therapy is evidence based
2. Correct hypokalaemia which is common and may be exacerbated by CHQ
3. Resources may restrict availability of ventilated beds
4. Initiate corticosteroids early in all with pneumonic changes and hypoxaemia to avoid mechanical ventilation if possible
5. If mechanical ventilation required: distress, acidosis, cognitive deterioration, progressive decline in sats etc do not withhold it on the assumption that it may do harm

Limit fluid intake but maintain nutrition- avoid oedema (sacral)

Assist control Initiate with PEEP 10
peak pressure 26
FiO2 to maintain sat > 90%

If still hypoxaemic or FiO2 > 0.6

prone patient and increase mean airway pressure-

PEEP may be higher if obese or considerable extrathoracic effect on compliance

Maximal Peak pressure 30 or if obese 34

OR APRV: (Our preferred mode) Pressure high 26-30

Pressure low 0

Time high 4 secs

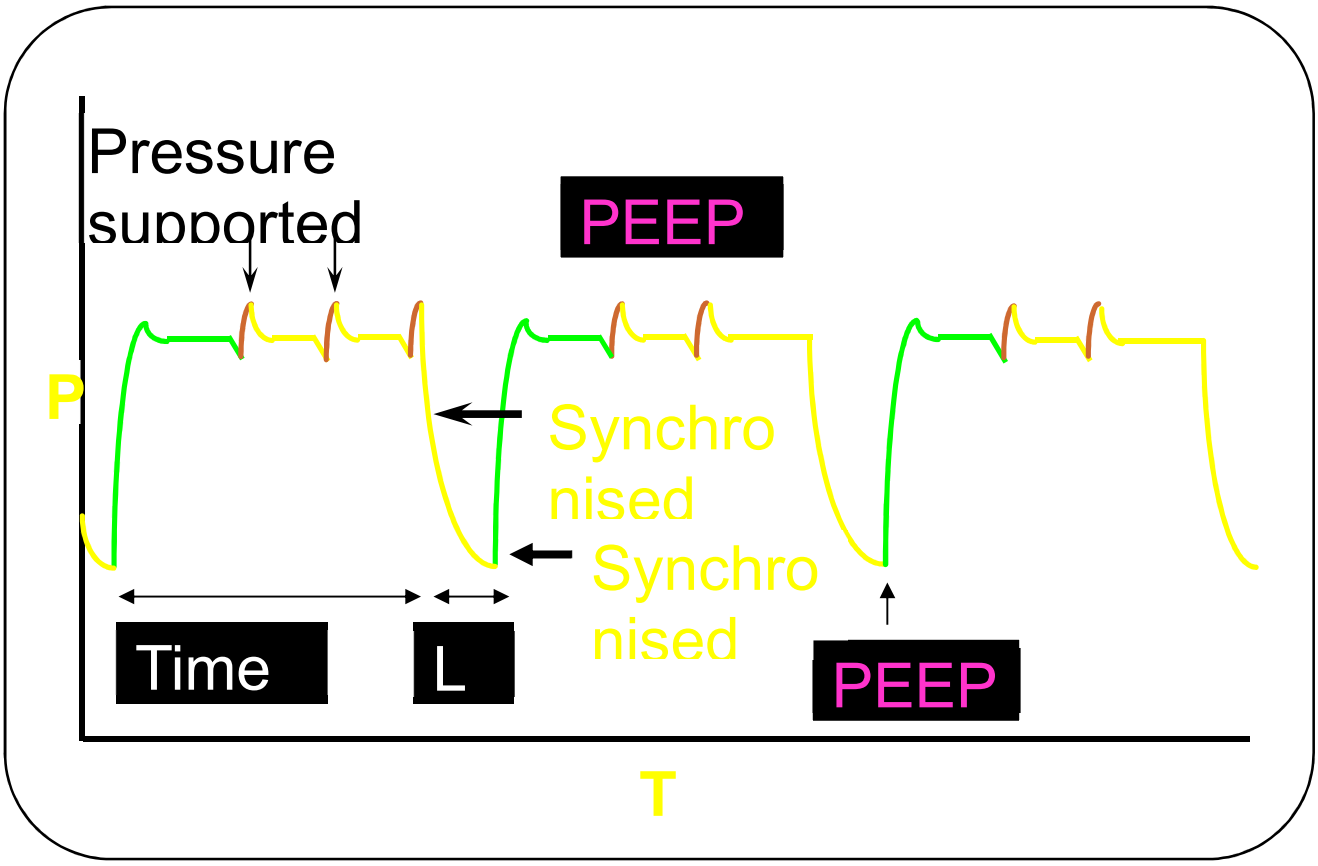
Time low set on the flow tracing- inspiration occurs at 40% of Peak expiratory flow: usually 0.8secs; shorter may create excessive autoPEEP with an increase in pCO2 and decrease in PaO2

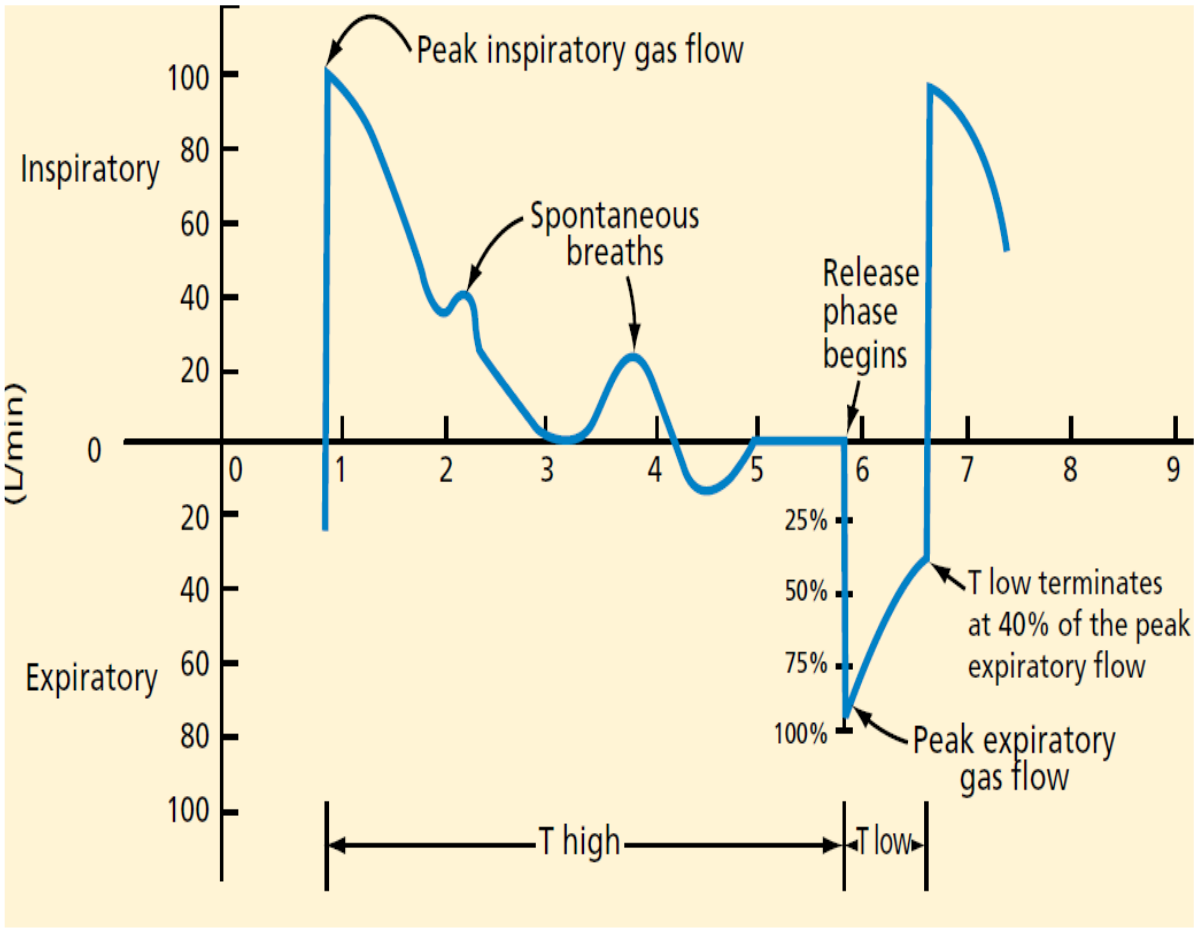
No Pressure support

Allow spontaneous respiration: Trigger should be at the lowest setting

If pCO2 elevated to the extent that pH drops to < 7.3 shorten time high to 3- ie increasing the respiratory rate

NOTE: sedation is usually not necessary on this mode unless the tube is critical and extubation would rapidly be fatal




Peak inspiratory gas flow
Spontaneous breaths
Release phase begins
T low terminates at 40% of the peak expiratory flow
Peak expiratory gas flow
Inspiratory
Expiratory
(L/min)
100
80
60
40
20
0
0
1
2
3
4
5
6
7
8
9
25%
50%
75%
100%
T high
T low