

COVID-19: Highlights of Emerging Evidence and Resources for ICUs

22 - 30 April 2020

The extracts below have been selected from three sources: (i) a search of COVID-19 literature published since 22 April 2020, (ii) websites publishing COVID-19 rapid reviews (Cochrane, CEBM, Evidence Aid, HSE Ireland), (iii) 'hand' search of specific websites for grey literature resources.

This is not a full review of all published literature and not a clinical guideline but a selection of latest published studies

Mental health care for medical staff and affiliated healthcare workers during COVID-19

Resource

This paper details organisational, team and individual considerations for supporting staff (pragmatically) during the pandemic; key tables are below

Organisational support in a pandemic (see Table 3)

- Provide food, drink and rest facilities
- Ensure staff do not exceed safe hours by encouraging reporting and monitoring of hours, and preparing reinforcements so staff can take annual leave and breaks
- Focus on dynamic workload management and clear role expectations
- Proactively address resource inequities across the organisation
- Proactively resolve housing or transport issues for staff to reduce anxiety of infecting family members and safely travelling to and from work
- Regular situational updates for all staff, including realistic and frank information about risk and adverse events, e.g. report of death among colleagues or advising staff to write a will
- Regular praise for staff and acknowledgement of the unprecedented and exceptional circumstances
- Being visible on the ground throughout the pandemic (managers, senior staff)
- Clear messaging, rationale and guidance for changing standards of practice
- Encourage a two-way dialogue and be open to suggestions and ideas from staff
- Facilitate debriefs and morale building communal time
- Design rotas so that teams can stay together (despite migrating through changing shift times) throughout the pandemic
- Be clear that staff safety is the number one priority
- Provide adequate PPE and identify/remove high-risk staff from frontline work to reduce anxiety for becoming infected
- Provide education on the normal responses to extreme stress to reassure staff
- Educate team leaders on debriefing practices and the needs of individuals
- Provide formal and informal psychological support
- Ensure staff in quarantine are regularly supported and communicated with during and after their isolation
- Plan specifically for supporting teams if colleagues are critically ill or deceased
- Ensure there is appropriate support for different staff grades and disciplines, e.g. doctors and nurses, as well as porters and cleaning staff
- Keep up to date with evolving guidance on supporting staff and recommendations

Supporting staff in quarantine (see Table 4)

- Ensure prompt testing so that staff who are self-isolating can be confident that they are doing so appropriately
- Reduce boredom: give people work to do, keep them up to date with what is going on back at the hospital – this can also help to facilitate their return to work
- Encourage staff to create an exercise schedule, calming/grounding exercises, meditation
- Alleviate loneliness: keep staff in touch with teams, and up to date with what is going on back at the hospital – encourage them to contact friends and family
- Address guilt about leaving work 'shorthanded' and concerns over how they may be perceived by other staff members
- Reinforce the altruism of their isolation
- Offer phone/online support from a psychologist and teach stress management techniques, consider putting them in touch with a 'survivor' peer supporter to relate with
- Arrange delivery of food, drink and medicines if required

Crisis leadership strategies (see Table 5)

Actions speak louder than words



- Assume and demonstrate responsibility
 - Empower and inspire others
 - Be decisive and confident
 - Remain calm
 - Stay organised
 - Model good behaviours and practices,
- including good self-care
 - Be human
 - Be humble
 - Balance expertise and intuition to act decisively in uncertainty
 - Normalise reactions to stress

Forge a path together



- Encourage them to be their own leaders
 - Motivate others
 - Build on the strengths of others
 - Know others' strengths and weaknesses
- Build on your strengths
 - Build resilience to cope with prolonged high-stress situations

Prioritise what is truly important



- Be flexible
 - Look at the big picture
 - Be present
- Choose a positive future
 - Set boundaries

Communicate, communicate, communicate



- Clearly outline support resources
 - Acknowledge the gravity of the situation
 - Create talking points for managers/the team
- Explain 'meaning-making'
 - Listen to your team
 - Debrief teams after critical incidents
 - Be connected

Ways colleagues can support each other (see Table 6)

- Spotting signs of concern in them (nightmares, difficulty sleeping, unable to stop worrying, jumpy, easily irritable, medically unexplained symptoms appearing, flashbacks of stressful events)
- Offering them the opportunity to talk (do not force them to do so, but be available to listen, laugh or cry with them)
- Signposting them to supportive resources
- Being kind, consistent and reassuring
- Encouraging them to maintain good self-care
- Helping them explore the cause of their distress, and if you can help them address it, or if you need to escalate concerns

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Accessible: <https://journals.sagepub.com/doi/pdf/10.1177/2048872620922795>

Remdesivir in adults with severe COVID-19

Journal Article

An RCT of 237 patients randomly assigned (158 to remdesivir and 79 to placebo) across 10 hospitals in Wuhan, China

Findings:

- Remdesivir use was not associated with faster clinical improvement (hazard ratio 1.23 [95% CI 0.87–1.75])
- In patients receiving remdesivir (n=71) or placebo (n=47) early - within 10 days of symptom onset - those receiving remdesivir had a numerically but not statistically faster time to clinical improvement (median 18.0 days vs 23.0 days; HR 1.52 [0.95–2.43])
- Adverse event reporting was similar in both groups (66% in remdesivir recipients vs 64% in placebo). Remdesivir was stopped early because of adverse events in 18 (12%) patients versus four (5%) patients who stopped placebo early.

Implications

- This study does not provide conclusive evidence for the use of remdesivir over placebo. The numerical reduction in time to clinical improvement in those treated earlier requires confirmation in larger studies.

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Accessible: [https://doi.org/10.1016/S0140-6736\(20\)31022-9](https://doi.org/10.1016/S0140-6736(20)31022-9)

Strong associations and moderate predictive value of early symptoms for SARS-CoV-2 test positivity among healthcare workers

Single centre study of 803 healthcare workers (HCW) in the Netherlands with mild symptoms who were tested for SARS-CoV-2

Methods: Symptom questionnaire emailed to all tested HCWs. 90 tested positive. Overall response rate 64% (80% in test positives).

Findings:

- Most frequently reported symptoms: among test-negative HCW; cough (60%), sore throat (56%), common cold (51%). Among test-positive HCW; headache (71%), general malaise (63%) muscle ache (63%)
- **Anosmia and muscle ache** were strongest predictors on univariate analysis
- Simple prediction model based on 7 symptoms most strongly associated with SARS-CoV-2 positivity among HCW, giving extra weight to anosmia and muscle ache as strongest predictors, showed moderate discriminative value (sensitivity: 91.2%; specificity: 55.6%)

Management recommendations: These models would not justify presumptive SARS-CoV-2 diagnosis without molecular confirmation, but can contribute to targeted screening strategies

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Accessible: <https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2020.25.16.2000508>

Safer intubation and extubation of patients with COVID-19

Resource

Illustrated letter from Canadian Journal of Anaesthesia

Indication: Technique to potentially reduce contamination from secretions (droplets) and aerosols during intubation and extubation. This summary will concentrate on extubation (see illustration in accessible link).

Key extubation steps:

1. Prior to extubation (patient still deeply anesthetised/paralysed), suction catheter placed in mouth and secretions removed
2. Regular surgical mask placed on patient's chin and nasal prongs with low-flow oxygen applied for use after extubation
3. Before connecting to ventilator circuit, anaesthesia mask with a clear plastic drape placed over it is positioned. Plastic drape provides protection from contaminating particles coming out of the mouth on extubation.
4. As patient emerges, anaesthesia mask tightly sealing around the mouth. Suction tube placed inside the mask on the side of the ETT to aspirate any secretions and the air coming out of the airway while removing ETT.
5. When the patient ready to extubate, ETT removed while keeping mask firmly on face to protect from infection due to coughing (sealing action of mask around mouth and suction catheter inside mask prevents further contamination risk).
6. Patient then extubated and hand-assisted with mask while nasal prongs are already providing oxygen in preparation for transfer. Plastic cover can then be removed as needed when patient is breathing and not coughing anymore, after which circuit can be re-connected to mask.
7. Prior to transfer, lower part of the face mask can be slightly lifted to allow a regular surgical mask to be slid in place

Published: 22/04/2020

Accessible: <https://link.springer.com/article/10.1007%2Fs12630-020-01666-9>

Special interest articles

The trinity of COVID-19: immunity, inflammation and intervention

Review

This illustrated Nature review describes the interaction of SARS-CoV-2 with the immune system and the subsequent contribution of dysfunctional immune responses to disease progression based on reports describing SARS-CoV-2 and parallel pathophysiological and immunological features of SARS-CoV and MERS-CoV.

It concludes controlling the inflammatory response may be as important as targeting the virus. Therapies inhibiting viral infection and regulation of dysfunctional immune responses may synergize to block pathologies at multiple steps.

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Accessible: <https://dx.doi.org/10.1038/s41577-020-0311-8>

Current perspectives on Coronavirus 2019 (COVID-19) and cardiovascular disease: A white paper by the JAHA editors

Review

This White Paper authored by the Physicians and Scientists on the Editorial Board of the Journal of the American Heart Association (JAHA), looks at cardiovascular comorbidities of COVID-19 infection; the diagnosis and treatment of standard cardiovascular conditions during the pandemic; and the diagnosis and treatment of cardiovascular consequences of COVID-19 infection.

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Accessible: <https://dx.doi.org/10.1161/jaha.120.017013>

Systematic review of international guidelines for tracheostomy in COVID-19 patients

Review

This is a preprint review of international guidelines for tracheostomy in COVID-19 infected patients, summarizing the available literature from 18 guidelines from all over the world.

Accessible: <https://www.medrxiv.org/content/medrxiv/early/2020/04/29/2020.04.26.20080242.full.pdf>

A resource for healthcare workers

Resource

Created by The Joyful Doctor: <https://www.joyfuldoctor.com/>



End of shift?

*3 mins, 3 deep breaths, 3 questions
for you and your team*

**What was hard?
What went well?
What do I need right now?**

NHS confidential staff support line:
Call 0300 131 7000 (7am-11pm, England)
Text FRONTLINE to 85258 (24/7, UK wide)
@people_nhs@NHSPracHealth @joyful_doctor