Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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blood purification application to patients after different types of cardiac surgery (open valve surgery, surgery of myocardium revascularization, implantation of left ventricular assist device, heart and lungs transplantation, transcatheter manipulation) in the immediate postoperative period. The structure of procedures and patients’ characteristics are shown in table 1.

Conclusion: Acute extracorporeal blood purification methods are a significant option in therapy of complications after cardiac surgery. Procedures are effective and safe. This direction requires further development and study.

| Table 1. Structure of procedures. | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|----------------------------------|------|------|------|------|------|------|------|
| Number of patients               | 115  | 112  | 146  | 200  | 168  | 153  | 218  |
| Patients with chronic renal failure | 9    | 17   | 22   | 12   | 20   | 15   | 26   |
| Intermittent procedures (Diag. 4088 S: VVHIF, VVHIF) | 195  | 313  | 533  | 754  | 1233 | 770  | 705  |
| AKI after heart transplantation  | 7    | 6    | 5    | 2    | 6    | 2    | 2    |
| AKI after lung transplantation   | -    | 2    | 4    | 1    | 1    | 1    | -    |
| AKI after LVAD implantation      | 14   | 14   | 14   | 19   | 10   | 5    | 11   |
| CVVH (Diapact CRRT® (OMNI))      | 64   | 29   | 60   | 65   | 58   | 77   | 64   |
| CVVH (Multifiltra)              | 147  | 184  | 203  | 109  | 50   | 17   | 15   |

02 - Intensive Care Medicine

THE USE OF METARAMINOL AS A VASOPRESSOR IN CRITICALLY UNWELL PATIENTS: A NARRATIVE REVIEW AND A SURVEY OF UK PRACTICE

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Background: Major international guidelines state that norepinephrine should be used as the first-line vasopressor to achieve adequate blood pressure in patients with hypotension or shock. However, recent observational studies report that in the United Kingdom and Australia, metaraminol is often used as a first-line medication for cardiovascular support.

Aim of the study: The aim of this study was to carry out a systematic review of metaraminol use for the management of shock in critically unwell patients and carry out a survey evaluating whether UK critical care units use metaraminol and under which circumstances.

Methods: A systematic review literature search was conducted. We investigated 30 departments, representing small (< 10 beds), medium (10-20 beds), and large (> 20 beds) units, and both teaching and non-teaching hospitals, using a semi-structured narrative interview and a pre-defined list of questions.

Results: We received 26 responses from the 30 hospitals we contacted, representing 10% of UK adult critical care units. Of these 4 were small, 10 were medium, and 12 were large units. The surveyed units had a collective total of 34206 annual admissions, representing 17% of the UK total. The average number of admissions per small unit was 419/year, medium unit 757/year and larger unit 2080/year. In total, 88% of the units (23/26 hospitals) used metaraminol prior to critical care admission. In 70% of the hospitals, metaraminol was used on the wards or in the emergency departments. In 70% of the cases, metaraminol was used to manage hypotension due to any cause. Most hospitals (67%, 15/23) continued metaraminol infusion in the critical care unit. Almost half of the respondents explained that infusion was time-limited (usually 12–24 hours) with a subsequent change to norepinephrine. Approximately 2/3 of hospitals used metaraminol as the first-line vasopressor in critical care.

The systematic literature review revealed several case reports and only two studies conducted in the last 20 years investigating the effect of metaraminol as a stand-alone vasopressor. Both studies focused on different aspects of metaraminol use, therefore it was not feasible to carry out a full systematic review. The narrative review has demonstrated the lack of robust evidence to support the use of metaraminol in critically ill patients. Even though the pharmacodynamic properties of metaraminol provide a rationale for its use but there is no evidence to evaluate its impact on important patient outcomes, such as the length of vasopressor support, complications associated with its use, morbidity, and mortality.

Conclusions: Metaraminol was the first-line vasopressor in a representative sample of UK critical care units. We identified no randomised trials describing clinical outcomes of metaraminol use, meaning the benefits and risks of this treatment are uncertain. Further observational studies and prospective randomised controlled trials are warranted to inform evidence-based practice for patient benefit.

02 - Intensive Care Medicine

ANALYSIS OF ESTONIAN ECMO REGISTRY DATA OF COVID OUTBREAK 2020 TO 2022

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We launched Estonian nationwide ECMO registry in 2021 including data of all patients supported with ECLS in both ECMO centres - Tartu University Hospital and North Estonia Medical Centre. For the completeness of Registry all
retrospective data were added back from 2009. Dataset includes patient demographics, diagnoses, ICU-, hospital- and 12 month survival, ECLS details and complications. To date, the registry contains data of 301 patients. Since January 2020, 65 confirmed Covid-19 patients have received ECLS support: VV-ECMO was used 55, ECCO2R 7, VA support 1 and eCPR in 2 instances. The primary outcome in our analysis was in-hospital death. Secondary outcome was to compare in-hospital mortality and length of stay of Covid-confirmed patients to the 54 non-Covid ARDS patients treated with VV-ECMO.

Findings: Data for 55 adult patients with Covid-19 who received VV-ECMO support were available and included to this study. Of these 19(34.5%) were discharged home or to rehabilitation centre, 6(10.9%) were still in hospital at a time of analysis and 22(40.0%) died.

One patient was bridged to successful lung transplantation. We also supported two pregnant patients with good maternal and neonatal outcomes.

Comparing hospital mortality of Covid-confirmed cases to 54 non-Covid adult ARDS patients, hospital mortality was similar between the groups - 44.9% (22/49) and 46.2% (34/52) respectively. For those who were discharged alive, hospital LOS was longer for Covid-confirmed cases compared to non-Covid patients (mean 59 vs 50 days, respectively).

Interpretation: In patients with Covid-19 who received ECMO, observed outcome supports existing recommendations to consider use of ECMO in refractory Covid-19 related respiratory failure when performed in experienced centres. Registry can also be used to coordinate ECMO beds, equipment and personnel as resources become constrained. We constantly monitored availability of ECMO beds and agreed on common indications for VV ECMO in covid patients.

Further analysis will concentrate on 12 month survival and functional outcome.

**02 - Intensive Care Medicine**
**PP.07**

**PRONE VENTILATION IN PATIENTS WITH ARDS**

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**Introduction:** Prone ventilation has been a a tool that has been shown to improve oxygenation and ventilatory mechanics in patients with Down syndrome acute respiratory distress (ARDS). Although be a technique that has been performed for decades in the field of intensive care has been with the pandemic generated by COVID-19 when it has returned to be in the spotlight. However, the lack of standardized protocols make it difficult to establish when ventilation should be performed in the prone position, so this little review tries to outline some indications of when it should be done.

**Methodology:** Two recent meta-analyses have been reviewed about the effects of prone ventilation based on randomized controlled clinical trials of ventilation in the prone position.

**Results:** The results of the meta-analyses show that there are certain circumstances which must be given to maximize the beneficial effect of pronation and that it has a beneficial effect on survival of patients with ARDS. First of all, when separated the groups according to whether they had performed lung-protective ventilation or not, the OR of the group prone was 0.58 (95% CI 0.38-0.87) and 0.70 (95% CI 0.47-1.04), so prone ventilation does achieve a decrease in mortality when it is associated with lung-protective ventilation. Another variable that observed in this meta-analysis was the length of time prone, since when this was greater than 12 hours a day the OR of the prone group in terms of mortality vs. supine was 0.60 (95% CI 0.43-0.83) and 0.74 (95% CI 0.56-0.99). When the time was less than 12 hours these beneficial effects on mortality are they dissipated. Thirdly, the "timing" was also studied. Of pronation since when it was established in the first 48 hours after ARDS diagnosis, the OR was 0.49 (95% CI 0.35-0.68), beneficial effect that was lost when it started after the first 48 hours. Finally, the severity of ARDS was also assessed (measured in PaFi), observing that patients with severe ARDS (PaFi < 100) achieved a decrease in mortality with an OR of 0.51 (95% CI 0.36-0.72), and this effect the benefit was not achieved in moderate ARDS (PaFi 100-200). The second meta-analysis shows results similar, although this compares the mortality of Moderate-severe ARDS (PaFi <200) with the rest of ARDS, obtaining a reduction in mortality With an OR 0.74 (95% CI 0.56-0.99).

**Conclusions:** Prone ventilation can have effects beneficial in the survival of patients with ARDS and it is important to know what conditions you should to have to achieve this effect. If we rely on the results of the latest meta-analyses, it should be recommended its use in patients with moderate-severe ARDS (PaFi < 200), associated with low tidal volumes (ventilation of lung protection with VC < 8cc/kg of ideal weight), for more than 12 hours a day and establishing it in the first 48 hours from the diagnosis of ARDS.

**03 - Cardiac Anaesthesia**
**PP.08**

**AUDIT FOR ASSESSMENT OF THE FULFILLMENT OF CARDIAC ERAS GUIDELINES IN LOW EURO-SCORE II CARDIAC SURGICAL PATIENTS IN THE FREEMAN HOSPITAL.**

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**Introduction:** Enhanced Recovery After Surgery (ERAS) is a multimodal, transdisciplinary care improvement initiative to