## Supplement 10: Baseline Risk Studies – PICO 1 (Critically Ill)

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<th>Study ID</th>
<th>Study design</th>
<th>Country, City</th>
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<th>COVID-19 diagnosis</th>
<th>Age</th>
<th>Male (%)</th>
<th>Prior VTE (%)</th>
<th>Anticoagulation prior to study entry (%)</th>
<th>D-dimer</th>
<th>Still in ICU at end of study (%)</th>
<th>Still in hospital at end of study (%)</th>
<th>Number of patients on prophylactic intensity (N)</th>
<th>Prophylactic intensity description (drug, dose, duration)</th>
<th>Risk of bias</th>
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</thead>
<tbody>
<tr>
<td>Ferguson 2020</td>
<td>Retrospective cohort</td>
<td>USA, Colorado, March 15 to May 8, 2020</td>
<td>ICU only</td>
<td>Patients with PCR confirmed SARS-CoV-2 respiratory failure necessitating invasive mechanical ventilation were included in the study.</td>
<td>Confirmed SARS-CoV-2 by nasal/oral PCR</td>
<td>Mean (SD):63.7 (3.67)</td>
<td>55.31</td>
<td>NR</td>
<td>NR</td>
<td>Mean (SD):1600 (440.00)</td>
<td>NR</td>
<td>NR</td>
<td>95</td>
<td>Enoxaparin 40 mg subcutaneously daily, enoxaparin 30 mg twice daily, enoxaparin 0.5 mg/kg twice daily, or heparin 5,000 units subcutaneously two or three times daily.</td>
<td>Low</td>
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<tr>
<td>Klok 2020</td>
<td>Prospective cohort</td>
<td>Netherlands, NR, March 7 to April 22, 2020</td>
<td>ICU only</td>
<td>Critically ill patients with proven COVID-19 pneumonia</td>
<td>Negative</td>
<td>Mean (SD):64 (12.00)</td>
<td>75.54</td>
<td>NR</td>
<td>NR</td>
<td>Mean (SD):1750 (1130,2850)</td>
<td>26.92</td>
<td>NR</td>
<td>8</td>
<td>Leiden University Medical Center nadroparin 2850 IU sc per day or 5700 IU per day if body weight &gt; 100 kg, Erasmus University Medical Center Nadroparin 5700 IU per day; nadroparin 5700 IU sc twice daily from April 4th 2020 and onwards, Amphia Hospital Breda Nadroparin 2850 IU sc per day or 5700 IU per day if body weight &gt; 100 kg; nadroparin 5700 IU sc per day from March 30th 2020 and onwards</td>
<td>Low</td>
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<tr>
<td>Llitjos 2020</td>
<td>Retrospective cohort</td>
<td>France, NR, March 19 to April 11, 2020</td>
<td>ICU only</td>
<td>Critically ill patients with COVID-19 and respiratory failure</td>
<td>Positive SARS-CoV-2 test by RNA detection</td>
<td>Median (IQR):68 (51.5,74.5)</td>
<td>76.92</td>
<td>3.84</td>
<td>26.92</td>
<td>Median (IQR):1750 (1130,2850)</td>
<td>26.92</td>
<td>NR</td>
<td>8</td>
<td>NR (not ‘therapeutic intensity’)</td>
<td>Medium</td>
<td></td>
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<tr>
<td>Lodigiani 2020</td>
<td>Retrospective cohort</td>
<td>Italy, Milan, February 13 to April 10, 2020</td>
<td>ICU only</td>
<td>Critically ill patients requiring intensive care</td>
<td>Symptomatic with laboratory-proven COVID-19</td>
<td>Median (IQR):61 (55,69)</td>
<td>80.33</td>
<td>0.00</td>
<td>3.30</td>
<td>NR</td>
<td>NR</td>
<td>48</td>
<td>NR, as labeled by authors</td>
<td>Medium</td>
<td></td>
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<tr>
<td>Longchamp 2020</td>
<td>Other</td>
<td>Switzerland, Sion, March 8 and April 4, 2020</td>
<td>ICU only</td>
<td>Critically ill patients admitted to ICU for hypoxemic respiratory failure</td>
<td>Positive result on a reverse transcriptase–polymerase chain reaction assay of a specimen collected from a nasopharyngeal swab, sputum, or bronchial aspirate</td>
<td>Mean (SD):68 (11.00)</td>
<td>64</td>
<td>0.00</td>
<td>8.00</td>
<td>Median (IQR):2071 (953,3606)</td>
<td>8.00</td>
<td>NR</td>
<td>25</td>
<td>Heparin, 5000 IU SC TID or (Enoxaparin, 4000 IU SC)</td>
<td>Low</td>
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<tr>
<td>Maatman 2020</td>
<td>Retrospective cohort</td>
<td>USA, Indianapolis, March 12 to March 31, 2020</td>
<td>ICU only</td>
<td>Patients with laboratory-confirmed SARS-CoV-2 infection. Admitted to three Indianapolis area hospitals</td>
<td>Confirmed Dx, Positive SARS-CoV-2 test only</td>
<td>Mean (SD):61 (16.00)</td>
<td>56.88</td>
<td>NR</td>
<td>NR</td>
<td>Median (IQR):84506 (321,973)</td>
<td>2.75</td>
<td>3.66</td>
<td>109</td>
<td>5,000 U subcutaneous heparin every 8 hours, 40 mg enoxaparin daily, or</td>
<td>Low</td>
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<tr>
<td>Study</td>
<td>Design</td>
<td>Country</td>
<td>Location</td>
<td>Dates</td>
<td>Setting</td>
<td>Inclusion Criteria</td>
<td>Exclusion Criteria</td>
<td>Treatment</td>
<td>Mortality</td>
<td>Other Outcomes</td>
<td></td>
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<tr>
<td>Mei 2020</td>
<td>Retrospective cohort</td>
<td>China, Hubei</td>
<td>ICU only</td>
<td>January 1 to March 23, 2020</td>
<td>Critically ill patients requiring ventilator support</td>
<td>Symptomatic with laboratory-proven COVID-19</td>
<td>NR</td>
<td>NR</td>
<td>NR</td>
<td>NR</td>
<td>NR</td>
<td>45</td>
<td>NR, as labeled by authors</td>
<td>Low</td>
<td></td>
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<tr>
<td>Nougier 2020</td>
<td>Retrospective cohort</td>
<td>France, Lyon, NR</td>
<td>ICU only</td>
<td></td>
<td>Adult patients with a positive COVID-19 PCR</td>
<td>PCR</td>
<td>Mean (SD): 62.8 (13.10)</td>
<td>NR</td>
<td>NR</td>
<td>NR</td>
<td>Mean (SD): 3456 (2641.00)</td>
<td>NR</td>
<td>NR</td>
<td>48</td>
<td>Enoxaparin, 40 mg once daily if 50-100 kg and 40 mg twice daily (BID) if &gt;100 kg or fibrinogen &gt;8 g/L or D-dimer &gt;3000 ng/mL or subcutaneous unfractionated heparin, (5000 IU BID) according to their renal status</td>
<td>Medium</td>
</tr>
<tr>
<td>Pavoni 2020</td>
<td>Retrospective cohort</td>
<td>Italy, Bagno a Ripoli, February 28 to April 10, 2020</td>
<td>ICU only</td>
<td>Adult patients (≥ 18 years old) with severe COVID-19 admitted to ICU</td>
<td>Diagnosis of severe COVID-19 pneumonia was according to World Health Organization (WHO) [12] interim guidance and it was confirmed by RNA detection of the SARS-CoV-2 in clinical laboratory of Santa Maria Annunziata Hospital (Bagno a Ripoli, Italy).</td>
<td>Mean (SD): 61.0 (13.00)</td>
<td>60</td>
<td>NR</td>
<td>NR</td>
<td>Mean (SD): 1556 (1090.00)</td>
<td>NR</td>
<td>NR</td>
<td>40</td>
<td>Enoxaparin 30 mg (3000 units) SC BID (for BMI &gt;40 kg/m2); Enoxaparin 40 mg (4000 units) SC OD</td>
<td>Mortality: Low Other outcomes: Medium</td>
<td></td>
</tr>
<tr>
<td>Trigonis 2020</td>
<td>Retrospective cohort</td>
<td>USA, Indianapolis, March 23 to April 8, 2020</td>
<td>ICU only</td>
<td>Patients hospitalized at international units Health Methodist Hospital with severe acute respiratory syndrome coronavirus 2 requiring intubation between March 23, 2020, and April 8, 2020, […] all who underwent ultrasound evaluation for DVT were included.</td>
<td>Patients with confirmed SARS-CoV-2</td>
<td>Mean (SD): 60.8 (14.90)</td>
<td>NR</td>
<td>NR</td>
<td>NR</td>
<td>NR</td>
<td>33</td>
<td>LMWH 30 mg, 40 mg, UFH 5000 U</td>
<td>Low</td>
<td></td>
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<tr>
<td>Wright 2020</td>
<td>Prospective cohort</td>
<td>USA, Colorado, March 1 to April 20, 2020</td>
<td>ICU only</td>
<td>Critically ill patients with COVID-19</td>
<td>Patients with documented COVID-19</td>
<td>Median (IQR): 54 (42,59)</td>
<td>63.63</td>
<td>NR</td>
<td>NR</td>
<td>Median (IQR): 1840 (935,4085)</td>
<td>NR</td>
<td>NR</td>
<td>44</td>
<td>Enoxaparin, between 40 and 60 mg/d or UFH between 10,000 and 15,000 units/d.</td>
<td>Medium</td>
<td></td>
</tr>
</tbody>
</table>
### Ferguson 2020
- **Study design**: Retrospective cohort
- **Country, City, Study Period**: USA, Colorado, March 15 to May 8, 2020
- **Population**: Patients with PCR confirmed SARS-CoV-2 respiratory failure necessitating invasive mechanical ventilation were included in the study.
- **COVID-19 diagnosis**: Confirmed SARS-CoV-2 by nasal/oral PCR
- **Age**: Mean (SD): 63.7 (3.67)
- **Male (%)**: 55.3
- **Prior VTE (%)**: NR
- **Anticoagulation prior to study entry (%)**: NR
- **D-dimer Still in ICU at end of study (%)**: Mean (SD): 1600 (440.00)
- **D-dimer Still in hospital at end of study (%)**: NR
- **Anticoagulation Group (N)**: Prophylactic intensity (N=95)
- **Anticoagulation intensity description (drug, dose, duration)**: DVT chemoprophylaxis in the form of enoxaparin 40 mg subcutaneously daily, enoxaparin 30 mg twice daily, enoxaparin 0.5 mg/kg twice daily, or heparin 5,000 units subcutaneously two or three times daily.
- **Risk of bias**: Serious

### Fraisse 2020
- **Study design**: Retrospective cohort
- **Country, City, Study Period**: France, Argenteuil, March 6, 2020 to April 22, 2020
- **Population**: Patients were admitted to our ICU for acute respiratory failure related to SARS-CoV-2 pneumonia.
- **COVID-19 diagnosis**: 92 patients were admitted to our ICU for acute respiratory failure related to SARS-CoV-2 pneumonia.
- **Age**: Median (IQR): 61 (55, 70)
- **Male (%)**: 79.3
- **Prior VTE (%)**: 5.00
- **Anticoagulation prior to study entry (%)**: 0.00
- **D-dimer Still in ICU at end of study (%)**: Median (IQR): 2400 (1700, 7900)
- **D-dimer Still in hospital at end of study (%)**: 27.17
- **Anticoagulation Group (N)**: Prophylactic intensity (N=43)
- **Anticoagulation intensity description (drug, dose, duration)**: Usual (prophylactic) anticoagulation
- **Risk of bias**: Serious

### Litjos 2020
- **Study design**: Retrospective cohort
- **Country, City, Study Period**: France, Paris, March 19, 2020 to April 11, 2020
- **Population**: Patients with confirmed COVID-19
- **COVID-19 diagnosis**: RNA detection
- **Age**: Median (IQR): 68 (51.5, 74.5)
- **Male (%)**: 76.92
- **Prior VTE (%)**: 3.85
- **Anticoagulation prior to study entry (%)**: 26.92
- **D-dimer Still in ICU at end of study (%)**: Median (IQR): 1750 (1130, 2850)
- **D-dimer Still in hospital at end of study (%)**: 26.92
- **Anticoagulation Group (N)**: Prophylactic intensity (N=8)
- **Anticoagulation intensity description (drug, dose, duration)**: LMWH or unfractionated heparin with anti-Xa monitoring with therapeutic levels of 0.3 to 0.7 U/mL of anti-Xa activity
- **Risk of bias**: Serious
| Taccone 2020 | Retrospective cohort | Belgium, Brussels, March 10, 2020 to April 20, 2020 | Adult patients (18 years old or older) who were diagnosed of COVID-19 using positive results on real-time polymerase chain reaction (RT-PCR) assay on the nasopharyngeal swab and/or bronchoalveolar lavage (BAL) specimens, being mechanically ventilated. A CTPA was performed, as part of the routine management. Positive results on real-time polymerase chain reaction (RT-PCR) assay on the nasopharyngeal swab and/or bronchoalveolar lavage (BAL) specimens. | Median (IQR): 61 (57, 66) | 70.00 | NR | NR | Median (IQR): 1896 (1131, 3248) | 10.00 | 10.00 | Prophylactic intensity (N=22) | Standard thromboprophylaxis (subcutaneous enoxaparin 4000 IU once daily) |
| Trigonis 2020 | Retrospective cohort | USA, Indianapolis, March 23, 2020 to April 8, 2020 | Identified COVID-19 patients and all who underwent ultrasound evaluation for DVT were included. Patients hospitalized at IU Health Methodist Hospital with confirmed SARS-CoV-2 requiring intubation and mechanical ventilation. | Mean (SD): 60.80 (14.90) | NR | 2.22 | 8.89 | Median (IQR): 4046 (2706, 8912) | NR | NR | Prophylactic intensity (N=22) | LMWH 40 mg every 24 hr, Enoxaparin 40 mg (4000 units) SC BID (for CrCl > 30 ml/min and BMI < 40 kg/m²), UFH 5000 U q8h | Serious |
| | | | | | | | | | | | Intermediate intensity (N=18) | LMWH 30 mg q12h, Heparin 7500 units SC TID | Serious |