

Safety recommendations on laboratory and blood count values for early mobilization in critically ill adults: an expert consensus

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DELPHI PROCESS: FINAL PERCENTAGE OF AGREEMENT ACHIEVED FOR EACH ITEM EVALUATED

FIRST ROUND - Consensus items: 12

Critically ill patient with predominantly respiratory pathology

- Contraindication to initiating active and active-assisted early mobilization

Glucose: $\leq 60\text{mg/dL}$ and $\geq 250\text{mg/dL}$. Agreement: 100%

pH: ≤ 7.24 . Agreement: 96.6%

Critically ill patient with predominantly cardiovascular pathology

- Contraindication to initiating active and active-assisted early mobilization

Glucose: $\leq 60\text{mg/dL}$ and $\geq 250\text{mg/dL}$. Agreement: 100%

pH: ≤ 7.24 . Agreement: 100%

Critically ill patient with predominantly renal pathology

- Contraindication to initiating active and active-assisted early mobilization

Glucose: $\leq 60\text{mg/dL}$ and $\geq 250\text{mg/dL}$. Agreement: 100%

pH: ≤ 7.24 . Agreement: 96.6%

Critically ill patient with predominantly surgical pathology

- Contraindication to initiating active and active-assisted early mobilization

Glucose: $\leq 60\text{mg/dL}$ and $\geq 250\text{mg/dL}$. Agreement: 100%

pH: ≤ 7.24 . Agreement: 100%

Critically ill patient with predominantly hematological/immunological pathology

- Contraindication to initiating active and active-assisted early mobilization

Glucose: $\leq 60\text{mg/dL}$ and $\geq 250\text{mg/dL}$. Agreement: 100%

pH: ≤ 7.24 . Agreement: 96.6%

Critically ill patient with predominantly neurological pathology

- Contraindication to initiating active and active-assisted early mobilization

Glucose: $\leq 60\text{mg/dL}$ and $\geq 250\text{mg/dL}$. Agreement: 100%

pH: ≤ 7.24 . Agreement: 96.6%

SECOND ROUND - Consensus items: 12

Critically ill patient with predominantly respiratory pathology

- Active early mobilization

Hemoglobin: ≥ 7 g/dL. Agreement: 96.6%

Critically ill patient with predominantly cardiovascular pathology

- Active early mobilization

pH: Between 7.35 and 7.45. Agreement: 100%

Critically ill patient with predominantly renal pathology

- Active early mobilization

Glucose: Between 70mg/dL and 140mg/dL. Agreement: 87.3%

pH: Between 7.35 and 7.45. Agreement: 96.6%

Critically ill patient with predominantly surgical pathology

- Active early mobilization

pH: Between 7.35 and 7.45. Agreement: 87.3%

Critically ill patient with predominantly hematological/immunological pathology

- Active early mobilization

Glucose: Between 70mg/dL and 140mg/dL. Agreement: 87.3%

pH: Between 7.35 and 7.45. Agreement: 91.5%

- Active-assisted early mobilization

Glucose: Between 70mg/dL and 140mg/dL. Agreement: 91.5%

Critically ill patient with predominantly neurological pathology

- Active early mobilization

Lactate: ≤ 2 mmol/L or 18mg/dL. Agreement: 91.5%

Glucose: Between 70mg/dL and 140mg/dL. Agreement: 96.6%

pH: Between 7.35 and 7.45. Agreement: 91.5%

- Active-assisted early mobilization

Glucose: Between 70mg/dL and 140mg/dL. Agreement: 100%

THIRD ROUND - Consensus items: 4

Critically ill patient with predominantly respiratory pathology

- Active-assisted early mobilization

Hemoglobin: ≥ 7 g/dL. Agreement: 87.3%

Critically ill patient with predominantly renal pathology

- Active early mobilization

Hemoglobin: ≥ 7 g/dL. Agreement: 87.3%

- Active-assisted early mobilization

Hemoglobin: ≥ 7 g/dL. Agreement: 100%

Critically ill patient with predominantly surgical pathology

- Active early mobilization

Hemoglobin: ≥ 8 g/dL. Agreement: 96.6%

FOURTH ROUND - Consensus items: 13**Critically ill patient with predominantly respiratory pathology**

- Active early mobilization

Glucose: Between 70mg/dL and 140mg/dL. Agreement: 87.3%

- Active-assisted early mobilization

Glucose: Between 70mg/dL and 140mg/dL. Agreement: 100%

Critically ill patient with predominantly cardiovascular pathology

- Active early mobilization

Glucose: Between 70mg/dL and 140mg/dL. Agreement: 100%

- Active-assisted early mobilization

Glucose: Between 70mg/dL and 140mg/dL. Agreement: 91.5%

Critically ill patient with predominantly renal pathology

- Active-assisted early mobilization

Glucose: Between 70mg/dL and 180mg/dL. Agreement: 91.5%

- Contraindication to initiating active and active-assisted early mobilization

Potassium: ≤ 3.0 mmol/L and ≥ 5.5 mmol/L. Agreement: 87.3%

Critically ill patient with predominantly surgical pathology

- Active early mobilization

Glucose: Between 70mg/dL and 140mg/dL. Agreement: 91.5%

- Active-assisted early mobilization

Hemoglobin: ≥ 7 g/dL. Agreement: 87.3%

Glucose: Between 70mg/dL and 140mg/dL. Agreement: 87.3%

Critically ill patient with predominantly hematological/immunological pathology

- Active early mobilization

Hemoglobin: ≥ 7 g/dL. Agreement: 87.3%

- Active-assisted early mobilization

Hemoglobin: ≥ 7 g/dL. Agreement: 87.3%

Critically ill patient with predominantly neurological pathology

- Active early mobilization

Hemoglobin: ≥ 7 g/dL. Agreement: 87.3%

- Active-assisted early mobilization

Hemoglobin: ≥ 7 g/dL. Agreement: 87.3%

FIFTH ROUND - Consensus items: 18**Critically ill patient with predominantly respiratory pathology**

- Active early mobilization

INR: Between 0.8 and 1.5. Agreement: 87.3%

- Contraindication to initiating active and active-assisted early mobilization

Hemoglobin: ≤ 7 g/dL. Agreement: 87.3%

Critically ill patient with predominantly cardiovascular pathology

- Contraindication to initiating active and active-assisted early mobilization

Hemoglobin: ≤ 7 g/dL. Agreement: 87.3%

Potassium: $\leq 3.0\text{mmol/L}$ and $\geq 5.5\text{mmol/L}$. Agreement: 91.5%
 INR: ≥ 3.1 . Agreement: 87.3%

Critically ill patient with predominantly renal pathology

- Active early mobilization

INR: Between 0.8 and 3.0. Agreement: 87.3%

- Active-assisted early mobilization

Potassium: Between 3.0mmol/L and 5.0mmol/L . Agreement: 91.5%

- Contraindication to initiating active and active-assisted early mobilization

Hemoglobin: $\leq 7\text{g/dL}$. Agreement: 87.3%

Critically ill patient with predominantly surgical pathology

- Active early mobilization

INR: Between 0.8 and 1.5. Agreement: 100%

- Contraindication to initiating active and active-assisted early mobilization

Hemoglobin: $\leq 7\text{g/dL}$. Agreement: 91.5%

Critically ill patient with predominantly hematological/immunological pathology

- Active early mobilization

INR: Between 0.8 and 1.5. Agreement: 100%

- Contraindication to initiating active and active-assisted early mobilization

Hemoglobin: $\leq 7\text{g/dL}$. Agreement: 87.3%

Critically ill patient with predominantly neurological pathology

- Active early mobilization

INR: Between 0.8 and 1.5. Agreement: 91.5%

- Active-assisted early mobilization

INR: Between 0.8 and 1.5. Agreement: 87.3%

Early mobilization in the context of transfusions

Do you consider it safe to initiate active or active-assisted early mobilization in a critically ill adult, with or without invasive support, during the administration of a platelet transfusion?

Recommendation: No: it is recommended to wait until the transfusion has finished before initiating early mobilization. Agreement: 87.3%

Do you consider it safe to initiate active or active-assisted early mobilization in a critically ill adult, with or without invasive support, during the administration of a plasma transfusion?

Recommendation: No: it is recommended to wait until the transfusion has finished before initiating early mobilization. Agreement: 91.5%

Monitoring of routine laboratory tests

Regarding routine laboratory tests, how much should hemoglobin decrease over 24 hours to contraindicate the initiation of active or active-assisted early mobilization in critically ill patients, with or without invasive support?

Recommendation: A decrease of $\geq 2\text{ g/dL}$ compared with the previous day's value. Agreement: 91.5%

Regarding routine laboratory tests, how much should the platelet count decrease over 24 hours to contraindicate the initiation of active or active-assisted early mobilization in critically ill patients, with or without invasive support?

Recommendation: A decrease of $\geq 20\%$ compared with the previous day's value. Agreement: 91.5%

SIXTH ROUND - Consensus items: 24**Critically ill patient with predominantly respiratory pathology**

- Active early mobilization

Platelets: Between 20,000/ μ L and 40,000/ μ L. Agreement: 91.5%

Lactate: $\leq$ 3mmol/L or 27mg/dL. Agreement: 87.3%

pH: Between 7.35 and 7.45. Agreement: 87.3%

- Active-assisted early mobilization

Lactate: $\leq$ 3mmol/L or 27mg/dL. Agreement: 87.3%

INR: Between 0.8 and 3.0. Agreement: 87.3%

Critically ill patient with predominantly cardiovascular pathology

- Active early mobilization

Platelets: Between 41,000/ μ L and 60,000/ μ L. Agreement: 96.6%

Hemoglobin: $\geq$ 8g/dL. Agreement: 87.3%

Lactate: $\leq$ 2mmol/L or 18mg/dL. Agreement: 87.3%

INR: Between 0.8 and 1.5. Agreement: 87.3%

Potassium: Between 3.5mmol/L and 5.0mmol/L. Agreement: 91.5%

- Active-assisted early mobilization

Hemoglobin: $\geq$ 7g/dL. Agreement: 96.6%

Lactate: $\leq$ 3mmol/L or 27mg/dL. Agreement: 87.3%

INR: Between 0.8 and 3.0. Agreement: 87.3%

pH: Between 7.35 and 7.45. Agreement: 91.5%

Critically ill patient with predominantly renal pathology

- Active early mobilization

Potassium: Between 3.5mmol/L and 5.0mmol/L. Agreement: 91.5%

Critically ill patient with predominantly surgical pathology

- Active early mobilization

Platelets: Between 41,000/ μ L and 60,000/ μ L. Agreement: 87.3%

Lactate: $\leq$ 2mmol/L or 18mg/dL. Agreement: 87.3%

- Active-assisted early mobilization

INR: Between 0.8 and 1.5. Agreement: 91.5%

Critically ill patient with predominantly hematological/immunological pathology

- Active early mobilization

Lactate: $\leq$ 2mmol/L or 18mg/dL. Agreement: 100%

- Active-assisted early mobilization

Lactate: $\leq$ 2mmol/L or 18mg/dL. Agreement: 100%

INR: Between 0.8 and 3.0. Agreement: 87.3%

Critically ill patient with predominantly neurological pathology

- Active early mobilization

Platelets: Between 20,000/ μ L and 40,000/ μ L. Agreement: 87.3%

- Contraindication to initiating active and active-assisted early mobilization

Hemoglobin: $\leq$ 7g/dL. Agreement: 91.5%

Early mobilization in the context of transfusions

Do you consider it safe to initiate active or active-assisted early mobilization in a critically ill adult, with or without invasive support, during the administration of a red blood cell/packed red cell transfusion?

Recommendation: No: it is recommended to wait until the transfusion has finished before initiating early mobilization.

Agreement: 91.5%

SEVENTH ROUND - Consensus items: 30**Critically ill patient with predominantly respiratory pathology**

- Active-assisted early mobilization

Platelets: Between 20,000/ μ L and 40,000/ μ L. Agreement: 100%

pH: Between 7.24 and 7.45. Agreement: 87.3%

- Contraindication to initiating active and active-assisted early mobilization

Lactate: ≥ 3 mmol/L or 27mg/dL. Agreement: 91.5%

INR: ≥ 3.1 . Agreement: 100%

Critically ill patient with predominantly cardiovascular pathology

- Active-assisted early mobilization

Platelets: Between 41,000/ μ L and 60,000/ μ L. Agreement: 87.3%

Potassium: Between 3.5mmol/L and 5.0mmol/L. Agreement: 87.3%

- Contraindication to initiating active and active-assisted early mobilization

Lactate: ≥ 3 mmol/L or 27mg/dL. Agreement: 100%

Critically ill patient with predominantly renal pathology

- Active early mobilization

Platelets: Between 41,000/ μ L and 60,000/ μ L. Agreement: 87.3%

Lactate: ≤ 3 mmol/L or 27mg/dL. Agreement: 100%

- Active-assisted early mobilization

INR: Between 0.8 and 3.0. Agreement: 100%

Lactate: ≤ 3 mmol/L or 27mg/dL. Agreement: 87.3%

pH: Between 7.24 and 7.45. Agreement: 87.3%

- Contraindication to initiating active and active-assisted early mobilization

INR: ≥ 3.1 . Agreement: 87.3%

Critically ill patient with predominantly surgical pathology

- Active-assisted early mobilization

Platelets: Between 41,000/ μ L and 60,000/ μ L. Agreement: 100%

Lactate: ≤ 2 mmol/L or 18mg/dL. Agreement: 100%

pH: Between 7.24 and 7.45. Agreement: 100%

- Contraindication to initiating active and active-assisted early mobilization

Lactate: ≥ 2 mmol/L or 18mg/dL. Agreement: 96.6%

INR: ≥ 1.6 . Agreement: 87.3%

Critically ill patient with predominantly hematological/immunological pathology

- Active early mobilization

Platelets: Between 20,000/ μ L and 40,000/ μ L. Agreement: 96.6%

- Active-assisted early mobilization

Platelets: Between 20,000/ μ L and 40,000/ μ L. Agreement: 100%

pH: Between 7.35 and 7.45. Agreement: 100%

- Contraindication to initiating active and active-assisted early mobilization

Platelets: $\leq 20,000/\mu$ L. Agreement: 96.6%

Lactate: ≥ 2 mmol/L or 18mg/dL. Agreement: 96.6%

INR: ≥ 3.1 . Agreement: 96.6%

Critically ill patient with predominantly neurological pathology

- Active-assisted early mobilization

Platelets: Between 20,000/ μ L and 40,000/ μ L. Agreement: 91.5%

Lactate: $\leq$ 3mmol/L or 27mg/dL. Agreement: 96.6%

pH: Between 7.24 and 7.45. Agreement: 96.6%

- Contraindication to initiating active and active-assisted early mobilization

Platelets: $\leq$ 20,000/ μ L. Agreement: 91.5%

Lactate: $\geq$ 3mmol/L or 27mg/dL. Agreement: 96.6%

INR: $\geq$ 1.6. Agreement: 100%

EIGHTH ROUND - Consensus items: 6**Critically ill patient with predominantly respiratory pathology**

- Contraindication to initiating active and active-assisted early mobilization

Platelets: $\leq$ 20,000/ μ L. Agreement: 96.6%

Critically ill patient with predominantly cardiovascular pathology

- Contraindication to initiating active and active-assisted early mobilization

Platelets: $\leq$ 40,000/ μ L. Agreement: 96.6%

Critically ill patient with predominantly renal pathology

- Active-assisted early mobilization

Platelets: Between 20,000/ μ L and 40,000/ μ L. Agreement: 96.6%

- Contraindication to initiating active and active-assisted early mobilization

Platelets: $\leq$ 20,000/ μ L. Agreement: 96.6%

Lactate: $\geq$ 3mmol/L or 27mg/dL. Agreement: 96.6%

Critically ill patient with predominantly surgical pathology

- Contraindication to initiating active and active-assisted early mobilization

Platelets: $\leq$ 40,000/ μ L. Agreement: 96.6%