

Development of Evidence-Based Practice Anesthesia Guidelines for Brain-Dead Organ Donors

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Problem Introduction & Significance

- Brain-dead donors comprise the most significant portion of available donor groups in the United States.
- Brain death occurs when cerebral function is terminated with a known cause.
- Over the last 19 years, organ donation from brain-dead donors has doubled, and from 2019 to 2020, brain-dead donor donation has increased by 10.1 percent.
- In 1906, the first solid organ was unsuccessfully transplanted, with the first successful transplant being a kidney in 1954.
- Organ transplant complications require additional care and cost.
- When brain death occurs, the impact on all organ systems is detrimental, causing hemodynamic instability and collapse.
- Evidence-base practice guidelines for organ procurement surgery may improve the demand for viable organs for donation and decrease adverse outcomes for the recipients through safe, effective, and high-quality care.

Objectives

- Develop EBP guidelines for anesthesia for organ harvesting
- Develop a comprehensive plan to implement the EBP guidelines
- Develop a comprehensive plan on how to monitor and measure the EBP guidelines
- Develop a comprehensive plan on how to adjust the EBP guidelines if the outcomes are less than desirable

Guideline Development

- The guidelines discuss the sequence of events that occur during an organ procurement surgery and outline the goals for organ optimization.
- Hemodynamic goals found to improve outcomes include MAP, systolic blood pressure, heart rate, CVP, temperature, and oxygen saturation.
- Optimal laboratory values and other miscellaneous goals are included
- A list of medications to keep patient within the goals and other medications to have on hand for procurement are listed

Problem Statement: Person, Intervention, Comparison, Outcome(s), Time Question

- P: among brain-dead organ donors receiving anesthesia care
- I: would the development and implementation of EBP guidelines for anesthesia
- C: compared to traditional practice
- O: impact clinical outcomes such as an increased number of organs transplanted per donor, reduced organ rejection, decreased rates of death, and improved long-term survival, for the recipient
- T: over a one-year period?

Outcome Monitoring & Analysis

- Data collection: chart auditing, chart extraction, and checklists
- Information will be collected from the brain-dead donors' charts and the organ recipients' charts.
- Baseline data will also be collected for comparison.
- Analysis will be completed by the quality improvement department.
- Calculate the mean of each item on the checklists to observe trends

Evaluation & Adjustment

- Data from brain-dead donors and transplant recipients will be reviewed to see what parts of the guidelines met the objectives of the project, what parts did not, and the trends of the outcomes.
- There are not specific numerical national standards or goals for transplant outcomes, but it is important to assess and ensure that positive outcomes are increasing and negative outcomes are decreasing.
- Adjustments will be made if outcomes are less than desirable

Conclusion & Recommendations

- Creating anesthesia guidelines has the potential to change the lives of organ recipients through improved outcomes.
- The problem was identified with a discussion of the significance and background of the problem.
- A PICOT question was created and used to facilitate the literature search, create objectives, and develop EBP guidelines.
- The JHNEBP Model was used to guide implementation
- A plan for collecting, measuring, analyzing, and evaluating data and project implementation was discussed, including project timeline, budget, barriers and dissemination.

Model Identification

Johns Hopkins Nursing Evidence-Based Practice Model (JHNEBP) (image below)

- Inquire: lack of guidelines for anesthesia for organ procurement surgery
- Practice Question: PICOT
- Evidence: literature review
- Translation: implementation plan
- Best Practices & Practice Improvement: monitoring, evaluation, adjustment

Work In Interprofessional Teams



Abstract

- Organ donation from brain-dead donors is a large contributor to the number of organs donated each year, requiring critical care from the time of admission to the end of organ procurement surgery.
- This project encompasses the development, implementation, and evaluation plan of evidence-based practice anesthesia guidelines for brain-dead donors.
- The problem is identified through a discussion about organ donation, brain death, organ rejection, financial impact, and the significance of the problem to anesthesia.
- A clinical PICOT question drives the objectives of the project and facilitates a thorough literature review.
- The JHNEBP Model is used to guide the development of an implementation plan.
- Monitoring of outcomes, barriers, limitations, guideline improvement strategies, project timeline, and project budget are discussed, followed by a dissemination of the findings.

Implementation, Description, Design

- Ethical considerations of the project are within the families of the brain-dead organ donors and healthcare providers.
- The proposed setting is an urban level-one trauma center.
- Create a project team: department heads of OR nurses, pharmacists, anesthesia staff, transplant surgeons, and the OPO
- Staff education sessions & flyers
- Notification with hemodynamic parameters incorporated
- Guidelines found on desktop and displayed in all ORs

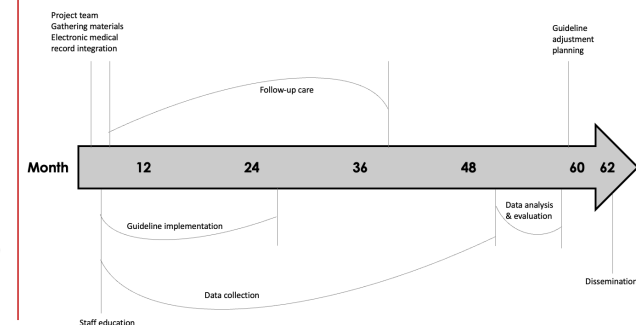
Limitations & Barriers

- Limited funding
- Healthcare provider's use of the guidelines, such as resistance to change, lack of time, lack of knowledge
- Organ recipient compliance to follow-up visits

Budget

- Supplies and labor costs for the IT department, CRNA salary, and QI department salary
- Total estimated budget: \$93,005.32

Timeline



References



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