

INTERNSHIP REPORT

“Strategic Brand Development for New Entrants in Electrosurgical Devices”

Guided by:

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Enrolment No.: IIHMR-U/02/2023-25/0581

Internship Organization: Winglobe

1.Introduction

Electrosurgical Units (ESUs) play a key role in modern surgical procedures. They allow doctors to cut tissue or stop bleeding using high-frequency electrical currents. During my internship at Winglobe, I got the chance to see how these machines are designed, tested, calibrated, and maintained. This experience helped me connect what I learned in the classroom with how things actually work in the real world.

2. Research Questions

- How are ESUs managed, tested, and maintained in a working industry setup?
- What are the common challenges or gaps in following safety and quality protocols?
- How well does our academic knowledge prepare us for these real-world applications?

3. Literature Review

Before starting my internship, I studied key concepts around electrosurgery—how ESUs work, the difference between monopolar and bipolar modes, and the importance of patient safety systems like REM (Return Electrode Monitoring). I also looked into global standards like IEC 60601 and ISO 13485, which are essential for any medical device.

4. Objectives

- To understand how ESUs are calibrated and checked for safety and performance.
- To observe the day-to-day work in a medical equipment company and compare it with what we learn in theory.
- To identify any areas where processes could be improved and make useful suggestions.

5. Hypothesis

- Null Hypothesis (H_0): There's no real gap between classroom knowledge and industry practice.
- Alternative Hypothesis (H_1): There is a gap between what we learn theoretically and how things are done practically.

6. Data Collection Procedure

I collected data mainly through observation. I kept daily notes on everything I learned and did. I also had informal chats with engineers and field staff to understand their experiences. Along with that, I reviewed company documentation like service logs and calibration records to get a deeper insight.

7. Study Design

This was a descriptive, observation-based study. I spent five weeks at Winglobe, working with different teams and seeing each stage of the ESU lifecycle—from assembly and calibration to field demos and servicing.

8. Duration of Study

- Total duration: 7 weeks
- Average engagement: 6–8 hours per day
- Activities included office-based work, lab exposure, and hospital visits

9. Sample Size

- Around 20 ESU units were handled or observed.
- Interacted with over 10 professionals (engineers, QA experts, R&D team).
- Visited 3 hospitals for real-world product demonstrations and installations.
- Ligapro – 13 & 23 – Open Surgery , 33 & 44 – Lap Surgery

10. Primary Data

The key information came from real-time observations, team discussions, customer feedback, and calibration logs. I tried to absorb both the technical side and the workflow/processes used in the company.

11. Operational Definitions

- ESU: A medical device that uses high-frequency electricity for cutting or coagulating tissue.
- REM: A safety system that checks if the patient's grounding pad is properly placed and working.
- Calibration: Adjusting a device to ensure it meets performance standards and gives accurate output.

12. Ethical Considerations

All my work was done under the guidance of company mentors. I made sure not to share any sensitive or proprietary information. I respected patient privacy during field visits and followed all internal protocols.

13. Implications of the Study

This internship showed me the real-world side of biomedical devices—something you can't fully learn from books. It highlighted where education and practice sometimes don't align, and why practical exposure is so important. It also showed how small improvements in documentation, training, and servicing can make a big difference in quality and safety.