New Product Development for a Bipolar Energy System

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Sponsor - Maxima Biotech Inc.

About The Company

- Designs and markets surgical equipment
- Focuses on Minimally Invasive Surgery (MIS)
- Specializes in cost-effectiveness

HONG YI-PING
Maxima Biotech Inc.’s Chairman

TANG XIAO-WEI
Maxima Biotech Inc.’s General Manager
Maxima Biotech’s Products

Maxima’s Ultrasonic Dissector Showcased at the Taiwan Smart Healthcare Pavilion

Maxima’s Disposable Cordless Ultrasonic Dissector

Healthcare+ Expo Taiwan, 2022
Open Surgery

Complications

- One in twenty-five (4%) post-op mortality rate
- Large 3-4 inch incisions
- High chance of infection
- Greater pain and recovery times

Diagram Visualizing Open Surgery Procedure

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Minimally Invasive Surgery (MIS)

Advantages of MIS over Open Surgery

- Smaller (½ inch or less) incisions
- Faster recovery time
- Lower infection risk
- Lower mortality rate

Diagram Visualizing MIS Procedure

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Types of Surgical Energies

Laparoscopic Surgical Energy Sources

Electrical Energy

• Concept
• Uses
• Surgical Types

Bipolar Energy Devices:

• Non-modulated, low-voltage current waveform
• Current passes through two electrodes
Bipolar Energy Devices

Advantages

- Enhances surgical efficiency and safety
- Minimizes operation time
- Stops vessel bleeding
- Available in many forms

Disadvantages

- Ineffective on smaller blood vessels
- Produces smoke
- Thermal damage depends on user’s skill
Project Goals and Objectives

Goal
- Collaborate with Maxima Biotech Inc. to aid the development of their upcoming surgical bipolar energy system product.

Objectives
- Provide recommendations for product requirements
- Assess market need for a cost-effective product
- Identify key factors influencing adoption of new bipolar devices by surgeons
Provide recommendations for product requirements and marketing strategies for Maxima’s upcoming bipolar device.
Method Goal

- Gain better understanding of minimally invasive surgical devices via their primary users
Creating a Case Study

Medical Device Malfunction

Primary Qualitative Data

Related to Interviews (Looking at Medical Device Malfunction & Parameters)

Maude Database & Online Research

Secondary Qualitative Data

Outcome: Case Study that Suggested Medical Requirement for Device
Competitor Analysis

Medtronic, n.d.

Olympus, 2024

Research Optimus, 2021

Research Optimus, 2021
Patent Research

- Search Databases for Related Patents
- Conduct Document Analysis
- Create a Technology Function Table
THANK YOU!

Do you have any questions?

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