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TECHNOLOGY BLUEPRINT

SMART TOURNIQUET

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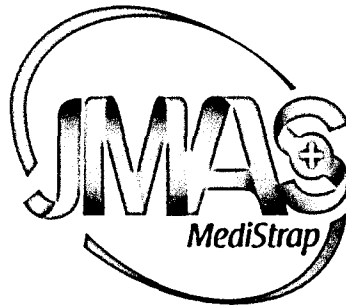
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COMPANY'S LOGO

CHAPTER 1

1.0 PRODUCT DESCRIPTION

1.1 Introduction

Tourniquet is used for blood taking and intravenous cannulation procedure in healthcare center. The idea of developing the 'Smart Tourniquet' is from our observation in the hospital and clinics where the availability of tourniquet is very limited. It is hardly available in the market. Usually the tourniquet is supplied by pharmaceutical company as a free item for purchasing some medication. As it is not lasting item (easily broken or malfunction), healthcare worker in the healthcare facility usually came out with another thing to replace the tourniquet such as latex glove or urinary catheter which is elastic.

1.2 Purpose of development

- The Objective is to develop a tourniquet that is easy to apply and remove; less painful; cheap, light and also reusable besides washable to prevent infection
- A comfortable tourniquet for client compares to the current practice where many of the healthcare providers is using the latex glove in replacement of tourniquet which is painful for the client and rather unprofessional.
- To replace the conventional rubber strap as tourniquet which is quite painful for the client as it needs to be tied on the limbs.
- To invent a better-quality tourniquet that will assist with vein detector and reduce unsuccessful venipuncture.



1.3 Product Concept

- To prevent pressure injury due to prolong application of the product.
- To ensure correct application of the product for a better effect
- To reduce skill used in using the product

1.4 Application

1.4.1 Functions

- Near-infrared wavelength LEDs - to illuminate the flesh at the site. The veins will appear as dark bands because they are more absorbent of this spectrum of light than the surrounding tissue. It is similar in principle to holding your hand over a flashlight.
- Switch System- Used to switch on or off the near-infrared wavelength LEDs.
- Equip with tension detector to reduce pain that measure on two colour coded led that indicate the pain level.
- Best choice as a first aid for emergencies on the journey or in outdoor activities.
- Suitable for intravenous injection of the sick and the first aid in an emergency.

1.5 Unique features

The uniqueness of the product for availability in Malaysia market consists of:

- Smart tourniquet which is easy to carry around
- A tourniquet that has indicator whether it is applied properly
- It has an alarm if it is left on the extremities for too long
- Simple and easy to use, time saving, no pressure on the skin, with elasticity and also adjustable.