

### **Project Title**

New Laser Service in a Surgical Clinic

### **Project Lead and Members**

- Donald Koo
- Dr Vincent Tay, NC Lai Xuanhua

### **Organisation(s) Involved**

Changi General Hospital

### **Healthcare Family Group Involved in this Project**

Healthcare Administration, Medical

### **Specialty or Discipline**

Risk Management, Dermatology, Plastic Surgery

### **Project Period**

Completed date: 2020

### **Aims**

- To ensure that the provision of a new laser service is safe for patients and staff
- To support Changi General Hospital's mission to deliver the best patient care with passion and empathy

### **Background**

See poster appended / below

### **Methods**

See poster appended / below

## **Results**

See poster appended / below

## **Lessons Learnt**

See poster appended / below

## **Conclusion**

See poster appended / below

## **Additional Information**

Singapore Healthcare Management (SHM) Conference 2021 – Shortlisted Project (Risk Management Category)

## **Project Category**

Care & Process Redesign, Quality Improvement, Workflow Redesign, Clinical Practice Improvement, Value Based Care, Safe Care, Risk Management, Adverse Outcome Reduction, Build Environment, Facilities Management Improvements, Training & Education

## **Keywords**

Laser Safety Standards, Non-Ionising Radiation, StarWalker MaQX Laser System

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**Singapore Healthcare Management 2021**

# New Laser Service in a Surgical Clinic



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## Introduction

Medical laser are commonly used in the Operating Theatre (OT) in a diverse range of applications to cut, coagulate and remove tissue. In the outpatient setting, Dermatology is an area where lasers are commonly used for surgery and treatment of various skin conditions. Recently, clinicians in the Plastic Surgery department have also started to use this modality for their patients.

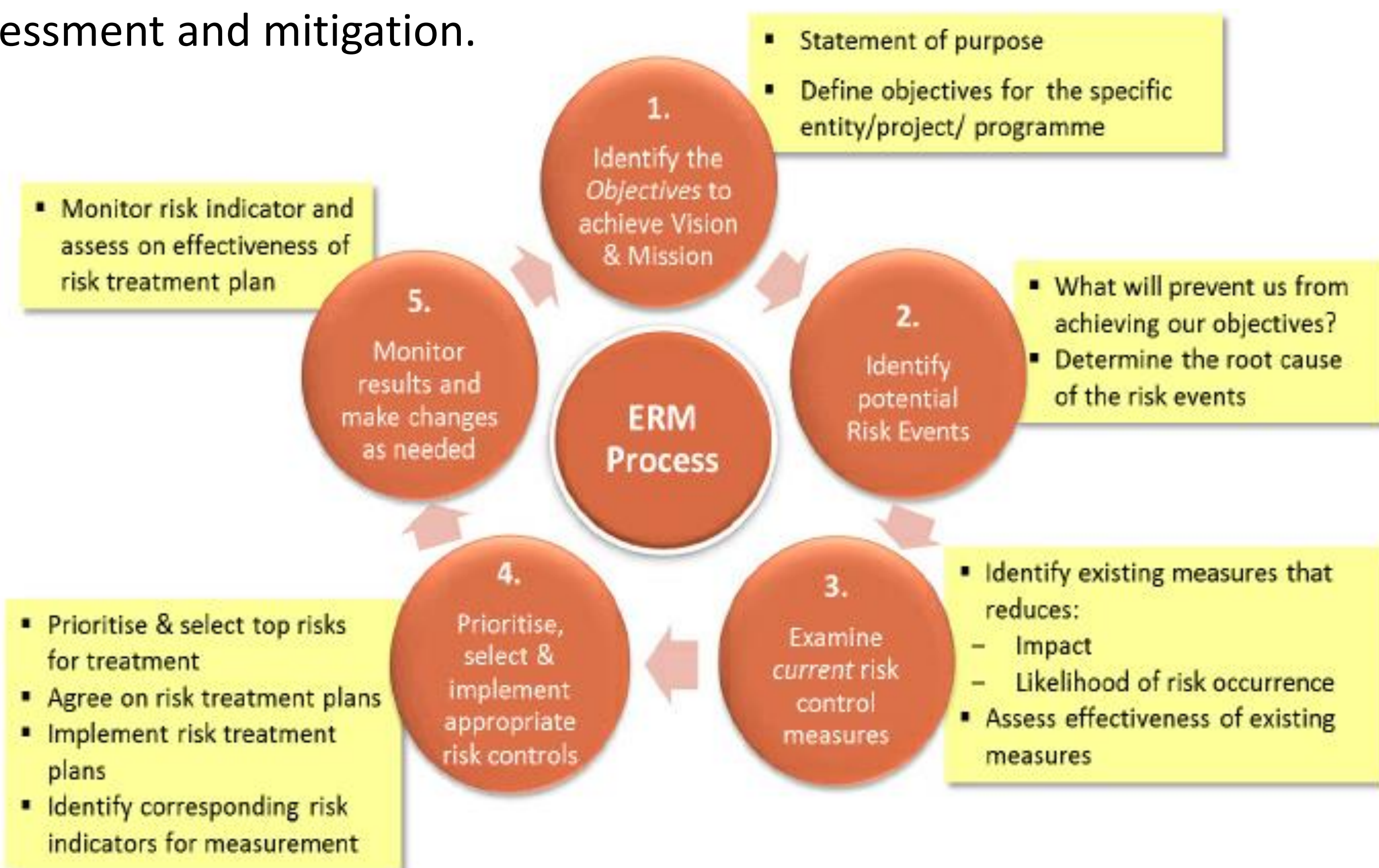
Even with the availability of space for the carrying out such procedures within an outpatient clinic, the rooms would need to be suitable and the nurses assisting the clinicians would have to be trained for the safety of patients and staff.

## Objectives

The aim of the project was to ensure that the provision of a new laser service is safe for patients and staff, to support CGH's mission to deliver the best patient care with passion and empathy. The focus was on achieving the operational objectives related to laser safety standards, guidelines and checklist, procedure room set-up, staff competency and rules and regulations.

## Methodology

The 5-step SingHealth ERM process and tool were used in the risk assessment and mitigation.



The objectives stated above would be the 1<sup>st</sup> step in the process. The risks identified in step 2 are events that would prevent the accomplishment of the operational objectives, with a heavy focus on patient and staff safety.

In steps 3 and 4, the risks with the related existing control measures and their additional controls for treatment were discussed and agreed upon.

Existing Control Measures	Additional Risk Controls
1. Use of current laser safety standards & guidelines, and checklist.	Review standards & guidelines and checklist.
2. Check with practicing clinics on room design and requirements.	a) Use updated standards & guidelines as a reference for preparing procedure room. b) Carry out room facility inspection by assigned Co-Radiation Safety Officer (Co-RSO) for laser safety.
3. Send assigned nursing staff for training at practicing clinics.	a) Standardised training requirements for nursing staff. b) Complete required training before start of laser service.
4. Doctors do not need to apply for N3 licence to use medical lasers wef 1 Aug 2019.	Conditional requirement to current control: Doctors to obtain consent of institution to use medical lasers.

The implementation of key actions/plan to support the additional controls were carried out by the parties responsible.

Key Actions	
1.	Update standards & guidelines and checklist for Co-RSO's for approval.
2.	Ensure these have been taken into account and are in place before facility inspection by Co-RSO: <ol style="list-style-type: none"> <li>Administrative, engineering and procedural control measures</li> <li>Perioperative and perspective safety aspects</li> <li>Beam and non-beam hazards</li> </ol>
3.	Staff to pass in-house training requirements and attend training by laser equipment vendor.
4.	Creation and endorsement of document of consent for doctors operating medical lasers.

Target dates and key performance measures such as target zero patient/staff safety incidents and target 100% attendance of training sessions by equipment vendor, together with the clinicians, were agreed upon.

The last step in the ERM process was to monitor the measures at an agreed frequency to assess the effectiveness of the plan.

## Result

Responsible parties, including the support of Dermatology, a clinic experienced in providing similar services, came together to identify the risks and created a plan for mitigation, along with key actions required to effect the changes.

The support of an experienced Co-RSO with a keen interest in medical lasers helped to ensure measures were well in place and this also gave the team confidence in starting the new laser service.

All parties involved worked with the target dates in mind and the first patient started treatment on time at the end of 2020.



StarWalker<sup>®</sup> MaQX Laser System

## Conclusion

Although medical lasers are classified as a form of non-ionising radiation, its use has many hazards and would require laser safety standards and guidelines to be adhered to for the safety of patients and staff.

This project was an opportunity for staff across different work areas to come together to assess and minimise patient and staff safety risks prior to initiating service provision, a valued process in proactive risk management.