

Medical and Cosmetic Laser Safety Management

Risk Assessment Guidance

Completing the Lasersafe risk assessment template

Background

A suitable and *sufficient risk assessment* is a legal requirement in the UK. This should also be undertaken by a *competent person*.

The template is just a form to guide you through the risk assessment process and provide evidence that this has been undertaken. Any actions identified in this process should be completed and the assessment reviewed when necessary.

This guide explains the **Laser Risk Assessment** template step by step in detail. It can also be used for an IPL risk assessment or alternatively, a specific IPL version is available which is slightly less detailed. In any case, this guide will serve for both templates. The term 'laser' is effectively used to mean 'laser/IPL' throughout.

Risk Assessment Form

Front Page

Risk Assessment

Use of Medical, Dental and Cosmetic Lasers

Location:	Room 1 (laser room)		
Laser Equipment e.g. Model, Class, λ, NOHD, Output	D3000 SUX Nd:YAG Class 4 1064nm, 2W NOHD=4m	Assessment Date:	01/10/2012
		Assessment Team:	A Smith (manager), B Jones (laser user)

Location

Where is the laser located?

Laser Equipment

What type of equipment do you have? (include as much detail as possible)

Assessment team

We often talk about the risk assessment "team" which includes all those involved in this process.

Complete pages 2 and 3, before making a note of any actions in the table below.

Summary (Action and Review Log)				
Action/Control Agreed	Person Responsible	Signature	Target Date	Date action completed

Summary (log)

This can be used to summarise the actions identified in the rest of the form (next 2 pages). It can also be used to note next year's review.

Page 1 – Laser beam hazards to the eye and skin

The template lists a number of the most common safety controls. Some of these may not be applicable and you may wish to add others. The right hand column can be used to note any action required or make any comment you wish.

Two terms worth bearing in mind when undertaking risk assessments are,

Reasonably practicable

- All reasonably practicable steps must be taken to ensure the safety of staff, patients/clients and members of the public.

Reasonably foreseeable

- Consider only scenarios that you think are reasonably likely to happen and avoid the temptation to drift into the realm of fantastic occurrences.

Persons at risk include,

- Persons inside the laser room (controlled area) including operators assisting staff and clients/patients
- Persons outside the room including other staff and members of the public

Example controls within the treatment room (Section 1.1)**Key control**

Some laser and IPL equipment is fitted with a security key (or other feature). This can be made use of if it is suspected that there is risk of unauthorised use.

Controlled area

It is usual to designate the area where the laser is to be used as a 'controlled area', defined as the area where people could be harmed by the laser. In practice this is usually the treatment room.

Adequate training and information

Have all users (and anyone else likely to be present in the room whilst the laser is in use), received suitable training? This might include safety training, training on the machine and how to perform the therapy.

Written safety information

If written safety information is either useful or a legal requirement (5 or more employees), has it been put in place? Written policies and procedures might include, general safety procedures (local rules) and specific work activity instructions.

New staff supervised

A common requirement for new staff is that they initially operate laser equipment under supervision.

Personal Protective Equipment (PPE)

This might include mask and gloves but will typically mean *eyewear*. This risk assessment should identify if,

- The eyewear is suitable (protection at the correct wavelength etc.)
- Legal (carries CE marking)
- Is in a state of good repair
- There are enough pairs
- A cleaning regime is in place

In addition, a common problem with eyewear if more than one laser is used, is that eyewear can be mixed up. Controls to prevent this should be in place such as,

- Clearly mark the eyewear with the name of the laser
- Store separately

Maintenance

Are planned preventative maintenance regimes in place? For example, checking the for signs of damage (equipment, eyewear and other safety controls)

Service

Regular servicing may contribute to safer equipment.

Reflective instruments minimised

Objects that may intercept the beam and cause unwanted reflections should be avoided. This could also include jewellery (rings, watches etc.). It is also often a good idea to remove large mirrors from controlled areas.

Client consultation and record keeping

These can be vital in ensuring the correct treatment parameters are used and the client/patient is suitable.

Test patch

An essential control for treatments such as laser hair removal.

Manufacturer /supplier information available

This is not always the case with imported equipment and can lead to problems.

Laser safety adviser consulted

It is generally considered essential to use the services of a professional Laser Protection Adviser (LPA) service, such as ourselves!

Patient ID

In very large organisations such as hospitals, correct identification of patients is not always straightforward but is obviously extremely important.

Post treatment instruction given

Verbal and written information is often given to patients/clients undergoing laser treatments.

Example controls outside the treatment room (Section 1.2)

This involves looking around the laser controlled area and identifying areas where the laser light could escape and cause harm to persons outside the room. Typical controls include,

- Closing the door
- Addressing double door gaps (e.g. using draft excluder style rubber strips)
- Covering windows (blinds/curtains)
- Covering door windows (blinds/shutters/screens/louvres etc.)
- Other large gaps such as pressure equalisation vents (operating theatres) and even a 'tea hatch'!

Example controls to prevent unauthorised entry (Section 1.3)

In most cases it is relatively unlikely that someone will walk into a laser room and receive an eye strike. However, it obviously isn't ideal to have people wondering in and out of the controlled area for a number of reasons. Common controls include,

Restricted area

Often the treatment room is not directly accessible to the public. It may be in a restricted area of a hospital or past a reception desk.

Locking doors

Locked doors are probably the only sure way to prevent unauthorised entry. Note that this brings other safety considerations such as fire risks and personal safety. If it is decided that a door lock must be fitted, ideally it should be able to be defeated from the outside in case of emergency. If the door will not be locked, it is worth noting the reason for this in the "comments/actions" column.

Warning signs

The effectiveness of these can be maximised by,

- Only displaying signs when a laser session is in progress
- Display at eye level
- Keeping it very simple/understandable
- Do not 'clutter' with too many signs

See: www.lasersafe.co.uk/signs.php to download example signage.

Information provided to other staff

For example it may be worth making sure the clinic receptionist knows not to enter when the sign is displayed or door is closed etc.

Default laser direction

Some lasers are in a fixed orientation, e.g. some ophthalmic lasers. Ideally these should face away from the entrance.

Page 2 – Non-beam hazards/risks

The laser equipment may have other hazards associated with it. Some common hazards along with suitable controls are listed in the risk assessment.

Electrical Hazard

Controls include regular maintenance (e.g. visual check for damaged wires etc.) and an electrical safety check (often referred to as PAT testing).

Fire or explosion hazard

Typical controls include minimising flammable materials, having extinguishers available and a fire safety policy/procedure etc. In a clinical environment, lasers have been known to set fire to cotton wool pads/gauze etc.

Hazardous substances

The laser plume (vaporised flesh and other biological material) may be an issue (usually in operating theatres). Aside from this being pretty unpleasant, it is thought that some pathogens may still be viable in the laser 'smoke'. Common controls include specialist extractors and face masks but this continues to be a difficult issue. If you can smell anything, then you're getting a lung-full!

Some lasers contain poisonous gases (e.g. excimer laser) or chemicals (e.g. dye laser). A COSHH assessment should be performed in these cases and an appropriate contingency plan put into place. For most lasers, COSHH assessments and contingency plans are not applicable.

Environment

All these points should be “Yes” as they are requirement of the ‘Workplace Regulations’.

Financial risk

Another risk that is sometimes overlooked is financial risk. We’ll assume business is good for the sake of argument and just consider *civil court action* as the risk. Most clinics salons and dentists are insured against this but it is worth stressing that unless they are fully compliant with the law, the insurance will be invalid. Insurance companies do not have a reputation of paying out if they can help it.

The NHS is effectively underwritten by the taxpayer, but pays out billions of pounds each year in compensation due largely to incompetent management. Suitable risk assessment and risk management must, surely be an essential tool in reducing this wastage.

Page 3 – Monitor the effectiveness of controls

It is useful to monitor the effectiveness of the controls put in place to ensure they are adequate. The final page of the risk assessment form can be used to document this.

Initially, just leave this section and maybe revisit it at a later date if necessary.

Back to the front page

Use the table on the front page to summarise any actions identified and record their planned implementation.