



Title: Device Specific Checklists for Laser Safety*

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Purpose: To create device-specific checklists for using laser devices to minimize the risk of errors. These checklists are to be implemented in clinical settings in which laser devices are used.

Members are encouraged to print, laminate, and attach these checklists to devices in the office for daily use.

* These checklists were adapted from the below sources and vetted by the ASLMS safety committee:

- Labadie JG, Hamilton HK, Dover JS. Laser Safety Checklists: An Update on How We Do It. *Dermatol Surg.* 2022 Aug 1;48(8):882-883. doi: 10.1097/DSS.0000000000003502. Epub 2022 Jun 3. PMID: 35917268
- Hamilton HK, Dover JS. Using checklists to minimize complications from laser/light procedures. *Dermatol Surg.* 2014 Nov;40(11):1173-4. doi: 10.1097/DSS.000000000000171. PMID: 25322164.



Laser: Q-Switched Alexandrite

Wavelength: 755 nm

Pulse Duration: nanoseconds

Chromophore(s): melanin, tattoo ink

Indications: Epidermal and Dermal Pigment (lentigines, tattoo removal, nevus of Ota, etc)

Step	Check-List
1	Close door, cover reflective mirrors & windows
2	Confirm: <ul style="list-style-type: none">▪ Patient name / DOB▪ No h/o gold therapy▪ Treatment site
3	Clean treatment area with alcohol
4	Confirm handpiece/spot size
5	Select: <ul style="list-style-type: none">▪ Fluence▪ Frequency (Hz) / Rep rate of pulse
6	Apply patient safety goggles
7	Check OD and proper specific wavelength or protection range All individuals in the room don laser specific goggles
8	Calibrate
9	Attach spacer
10	Test spot
11	Ensure spacer is touching skin at 90°

Endpoint: subtle skin whitening followed by mild erythema and dermal edema



Laser: Q-Switched Ruby

Wavelength: 694 nm

Pulse Duration: nanoseconds

Chromophore(s): melanin, tattoo ink

Indications: Epidermal and Superficial Dermal Pigment (lentigines, tattoo removal)

Step	Check-List
1	Close door, cover reflective mirrors
2	Confirm: <ul style="list-style-type: none">▪ Patient name / DOB▪ No h/o gold therapy▪ Treatment site
3	Clean treatment area with alcohol
4	Confirm handpiece/spot size
5	Select: <ul style="list-style-type: none">▪ Fluence▪ Frequency (Hz) / Rep rate of pulse
6	Apply patient safety goggles
7	Check OD and proper specific wavelength or protection range All individuals in the room don laser specific goggles
8	Calibrate
9	Attach spacer
10	Test spot
11	Ensure spacer is touching skin at 90°

Endpoint: subtle skin whitening followed by mild erythema and dermal edema



Laser: Q-Switched Nd:YAG

Wavelength: 1064 nm, 532 nm

Pulse Duration: nanoseconds

Chromophore(s): melanin, hemoglobin, tattoo ink

Indications: Epidermal and Dermal Pigment (melasma, tattoo removal, lentigines)

Step	Check-List
1	Close door, cover reflective mirrors
2	Confirm: <ul style="list-style-type: none">▪ Patient name / DOB▪ No h/o gold therapy▪ Treatment site
3	Clean treatment area with alcohol
4	Confirm handpiece
5	Select: <ul style="list-style-type: none">▪ Wavelength▪ Fluence▪ Spot size▪ Frequency (Hz) / Rep rate of pulse
6	Apply patient safety goggles
7	Check OD and proper specific wavelength or protection range All individuals in the room don laser specific goggles
8	Calibrate
9	Attach spacer
10	Test spot

Endpoint: no visible change with low fluence for melasma, subtle whitening for other pigmented lesions,



Laser: Picosecond Alexandrite

Wavelength: 755 nm

Pulse Duration: picoseconds

Chromophore(s): melanin, tattoo ink

Indications: lentigines, melasma, tattoo removal, texture, scars

Step	Check-List
1	Close door, cover reflective mirrors
2	Confirm: <ul style="list-style-type: none">▪ Patient name / DOB▪ No h/o gold therapy▪ Treatment site
3	Clean treatment area with alcohol
4	Attach handpiece
5	Select: <ul style="list-style-type: none">▪ Fluence▪ Spot size▪ Frequency (Hz) / rep rate of pulses
6	Apply patient safety goggles
7	Check OD and proper specific wavelength or protection range All individuals in the room don laser specific goggles
8	Calibrate
9	Test spot
10	Ensure spacer is touching skin at 90°

Endpoint: mild erythema and dermal edema, some subtle whitening for tattoo removal



Laser: Picosecond Nd:YAG

Wavelength: 532/1064 nm

Pulse Duration: picoseconds

Chromophore(s): melanin, tattoo ink

Indications: lentigines, melasma, tattoo removal, texture, scars

Step	Check-List
1	Close door, cover reflective mirrors
2	Confirm: <ul style="list-style-type: none">▪ Patient name / DOB▪ No h/o gold therapy▪ Treatment site
3	Clean treatment area with alcohol
4	Attach handpiece
5	Select: <ul style="list-style-type: none">▪ Fluence▪ Spot size▪ Frequency (Hz) / rep rate of pulses
6	Apply patient safety goggles
7	Check OD and proper specific wavelength or protection range All individuals in the room don laser specific goggles
8	Calibrate
9	Test spot
10	Ensure spacer is touching skin at 90°

Endpoint: subtle skin whitening followed by mild erythema and dermal edema for pigmented indications



Laser: Pulsed Dye Laser

Wavelength: 595 nm

Pulse Duration: milliseconds

Chromophore(s): hemoglobin

Indications: vascular lesions

Step	Check-List
1	Close door, cover reflective mirrors
2	Confirm: <ul style="list-style-type: none">▪ Patient name / DOB▪ Treatment site
3	Clean treatment area with alcohol
4	Attach handpiece/spot size
5	Select: <ul style="list-style-type: none">▪ Fluence▪ Pulse duration▪ Cooling setting▪ Frequency (Hz) / Rep rate of pulses
6	Apply patient safety goggles
7	Check OD and proper specific wavelength or protection range All individuals in the room don laser specific goggles
8	Calibrate
9	Test spot
10	Ensure spacer is touching skin at 90°

Endpoint: vessel disappearance, mild bruising, erythema, edema, purpura (if purpuric settings are desired)



Laser: Long-Pulsed 755 Alexandrite/1064 Nd:Yag

Wavelength: 755/1064 nm

Pulse Duration: milliseconds

Chromophore(s): melanin, hemoglobin

Indications: laser hair removal, veins

Step	Check-List
1	Close door, cover reflective mirrors
2	Confirm: <ul style="list-style-type: none">▪ Patient name / DOB▪ Treatment site
3	Clean treatment area with alcohol
4	Attach handpiece
5	Select: <ul style="list-style-type: none">▪ Fluence▪ Spot size▪ Frequency (Hz) / rep rate of pulses
6	Apply patient safety goggles
7	Check OD and proper specific wavelength or protection range All individuals in the room don laser specific goggles
8	Calibrate
9	Attach spacer
10	Test spot
11	Ensure spacer is touching skin at 90°
12	Never pulse stack with Nd:YAG

Endpoint: Perifollicular dermal edema, mild erythema, singed hairs with hair removal. Vessel disappearance with veins.

**Laser: Diode****Wavelength:** 800 nm**Pulse Duration:** nanoseconds**Chromophore(s):** melanin**Indications:** laser hair removal

Step	Check-List
1	Close door, cover reflective mirrors
2	Confirm: <ul style="list-style-type: none">▪ Patient name / DOB▪ Treatment site
3	Clean treatment area with alcohol
4	Select handpiece
5	If sapphire cooling tip selected, apply ultrasound gel
6	Select: <ul style="list-style-type: none">▪ Fluence▪ Spot Size▪ Pulse duration▪ Frequency (Hz) / Rep rate of pulse
7	Apply patient safety goggles
8	Check OD and proper specific wavelength or protection range All individuals in the room don laser specific goggles
9	Calibrate
10	Test spot
11	Ensure spacer is touching skin at 90°

Endpoint: perifollicular dermal edema, mild erythema, singed hairs

**Laser: Intense Pulsed Light (IPL)****Wavelength:** 515-1200 nm**Pulse Duration:** milliseconds**Chromophore(s):** melanin, hemoglobin**Indications:** lentigines, poikiloderma, vascular lesions

Step	Check-List
1	Close door, cover reflective mirrors
2	Confirm: <ul style="list-style-type: none">▪ Patient name / DOB▪ Treatment site▪ No significant tan
3	Clean treatment area with alcohol
4	Apply ultrasound gel
5	Select: <ul style="list-style-type: none">▪ Energy▪ Pulse duration▪ Frequency (Hz) / rep rate of pulses
6	Apply patient safety goggles
7	Check OD and proper specific wavelength or protection range All individuals in the room don laser specific goggles
8	Calibrate
9	Test spot
10	Ensure full contact with skin with minimal overlap while treating

Endpoint: mild erythema and dermal edema



Laser: Long-Pulsed 532/1064 nm

Wavelength: 532/1064 nm

Pulse Duration: milliseconds

Chromophore(s): hemoglobin

Indications: vascular lesions

Step	Check-List
1	Close door, cover reflective mirrors
2	Confirm: <ul style="list-style-type: none">▪ Patient name / DOB▪ Treatment site
3	Clean treatment area with alcohol
4	Select: <ul style="list-style-type: none">▪ Wavelength▪ Fluence▪ Spot size▪ Frequency (Hz) / Rep rate of pulse
5	Apply ultrasound gel
6	Apply patient safety goggles
7	Check OD and proper specific wavelength or protection range All individuals in the room don laser specific goggles
8	Calibrate
9	Test spot
10	Ensure full contact on skin when treating with minimal overlap

Endpoint: vessel spasm, mild bruising, erythema, edema



Laser: Ablative Fractional Er:YAG and CO₂

Wavelength: Fractionated 2940 nm (Er:YAG) & 10,600 nm (CO₂)

Pulse Duration: milliseconds

Chromophore(s): H₂O

Indications: lentigines, photodamage, texture, (rhytides, scars)

Step	Check-List
1	Close door, cover reflective mirrors
2	Confirm: <ul style="list-style-type: none">▪ Patient name / DOB▪ Treatment site
3	Remove topical anesthetics
4	Clean treatment area with alcohol
5	Select treatment parameters <ul style="list-style-type: none">▪ Energy▪ Treatment density setting▪ Number of passes
6	Turn on cold air device
7	Turn on vacuum
8	Apply patient safety goggles or corneal shields
9	Check OD and proper specific wavelength or protection range All individuals in the room don laser specific goggles
10	Test spot on tongue depressor
11	Ensure probe has full contact with the skin while treating

Endpoint: visualize evenly spaced MTZs

**Laser: Nonablative Fractional****Wavelength:** 1440, 1550, 1927nm**Pulse Duration:** milliseconds**Chromophore(s):** H₂O**Indications:** lentigines, photodamage, texture

Step	Check-List
1	Close door, cover reflective mirrors
2	Confirm: <ul style="list-style-type: none">▪ Patient name / DOB▪ Treatment site
3	Remove topical anesthetics
4	Clean treatment area with alcohol
5	Select: <ul style="list-style-type: none">▪ Energy▪ Treatment density setting▪ Number of passes
6	Turn on cold air device
7	Apply patient safety goggles
8	Check OD and proper specific wavelength or protection range All individuals in the room don laser specific goggles
9	Ensure probe has full contact with the skin while treating

Endpoint: visualize evenly spaced thermal MTZs