

Asclepion Laser Technologies
presents

MeDioStar XT

the second generation of high power diode laser



MeDioStar XT applications



- gentle, fast and safe hair removal
- 500 Watt on skin
- treatment of acne inversa
- treatment of vascular lesions (leg veins)

- in preparation:
 - treatment of superficial pigmented lesions
 - treatment of acne
 - skin rejuvenation



MeDioStar XT the new generation vs. MeDioStar HC



- pulse duration up to 500 ms adjustable
- new ergonomic compact handpiece
- handpiece weight reduction from 350 g to 250 g
- more compact design thus less system interfaces and weight reduction from 103 kg to 89 kg
- colored, larger touchscreen
- rails for car transportation available

MeDioStar XT the new generation vs. MeDioStar HC



- enlarged tip sizes (elyptic shape)
- spot size variation within seconds using same fibre and console
- automatic skin temperature monitoring
- parameter adjustments by joggle
- spring balanced fibre holder
- enlarged range for applicator
- more capable skin cooling system
- enlarged cooling tip

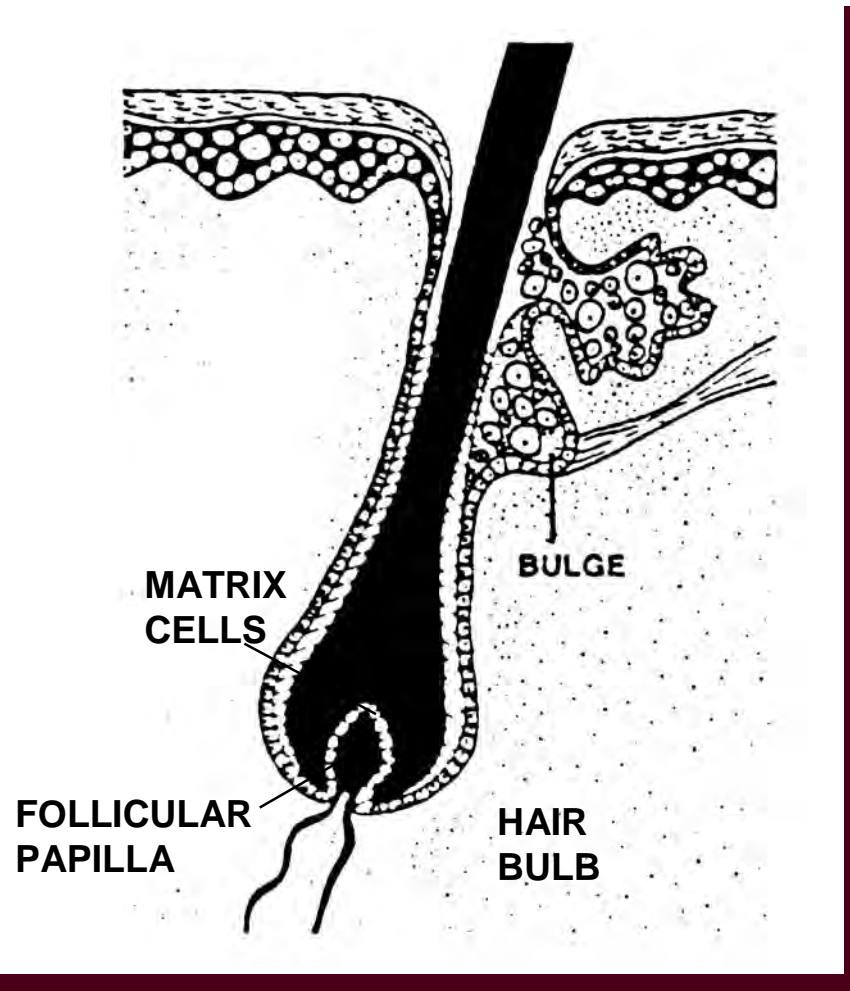
MeDioStar XT specification



- type of laser: high power diode
- wavelength: 810 nm
- power on skin: 500 Watt at skin
- pulselength: 15 ms – 500 ms
- pulse energy: max. 50J
- spot size: 4, 6/slit, 8, 10, 12, 14 mm
- frequency: up to 4 Hz
- power supply: 100, 120, 208, 230, 240 V 50/60 Hz
- weight: 89 kg
- cooling system: integrated Peltier

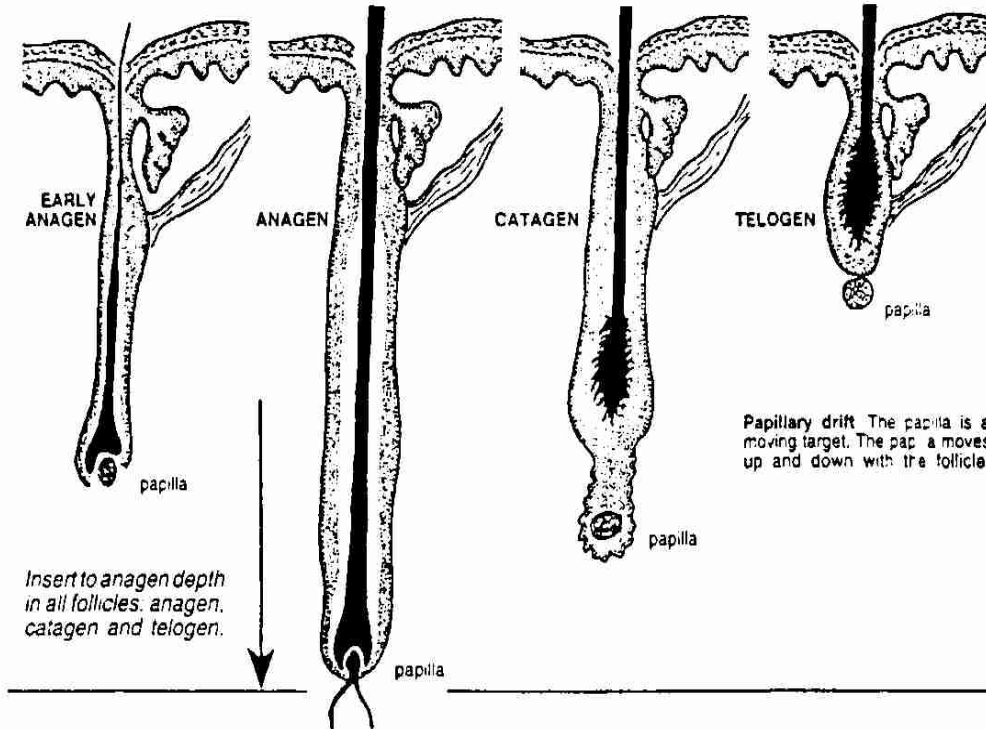


MeDioStar XT – principle of hair removal



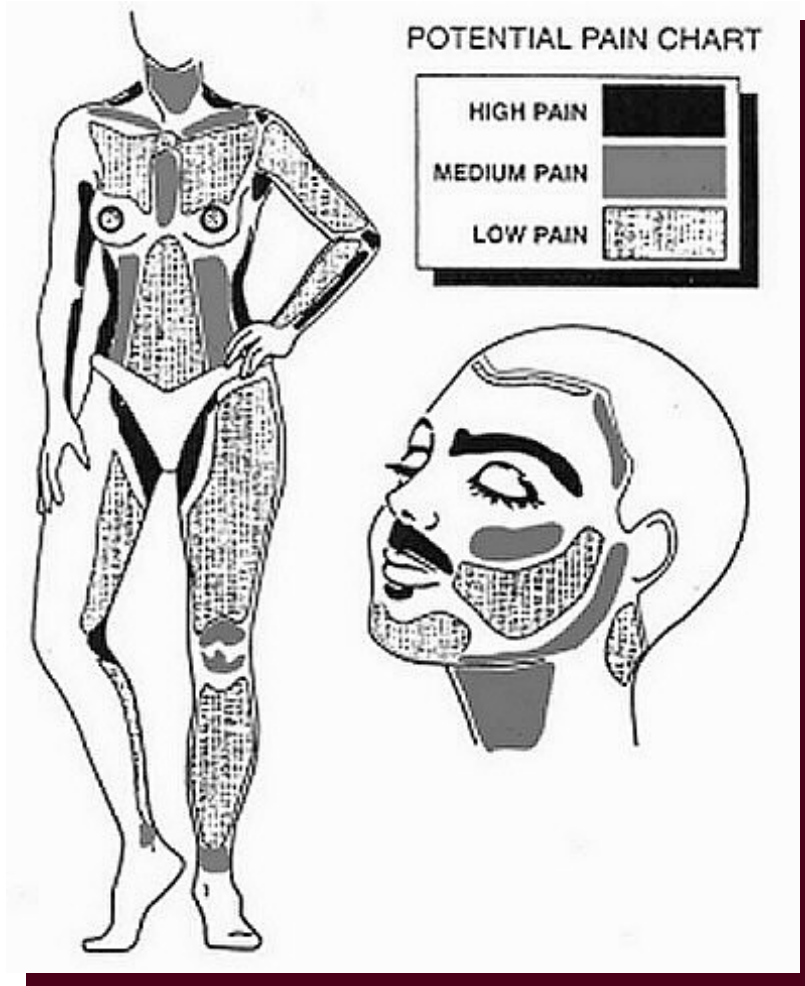
- the melanin within the hair absorbs the laser energy and produces heat
- the energy is conducted to the hair roots
- heating of surrounding tissue, follicle, bulge, matrix cells
- destruction of hair growth structures
- coagulation of capillar vessels

MeDioStar XT – principle of hair removal



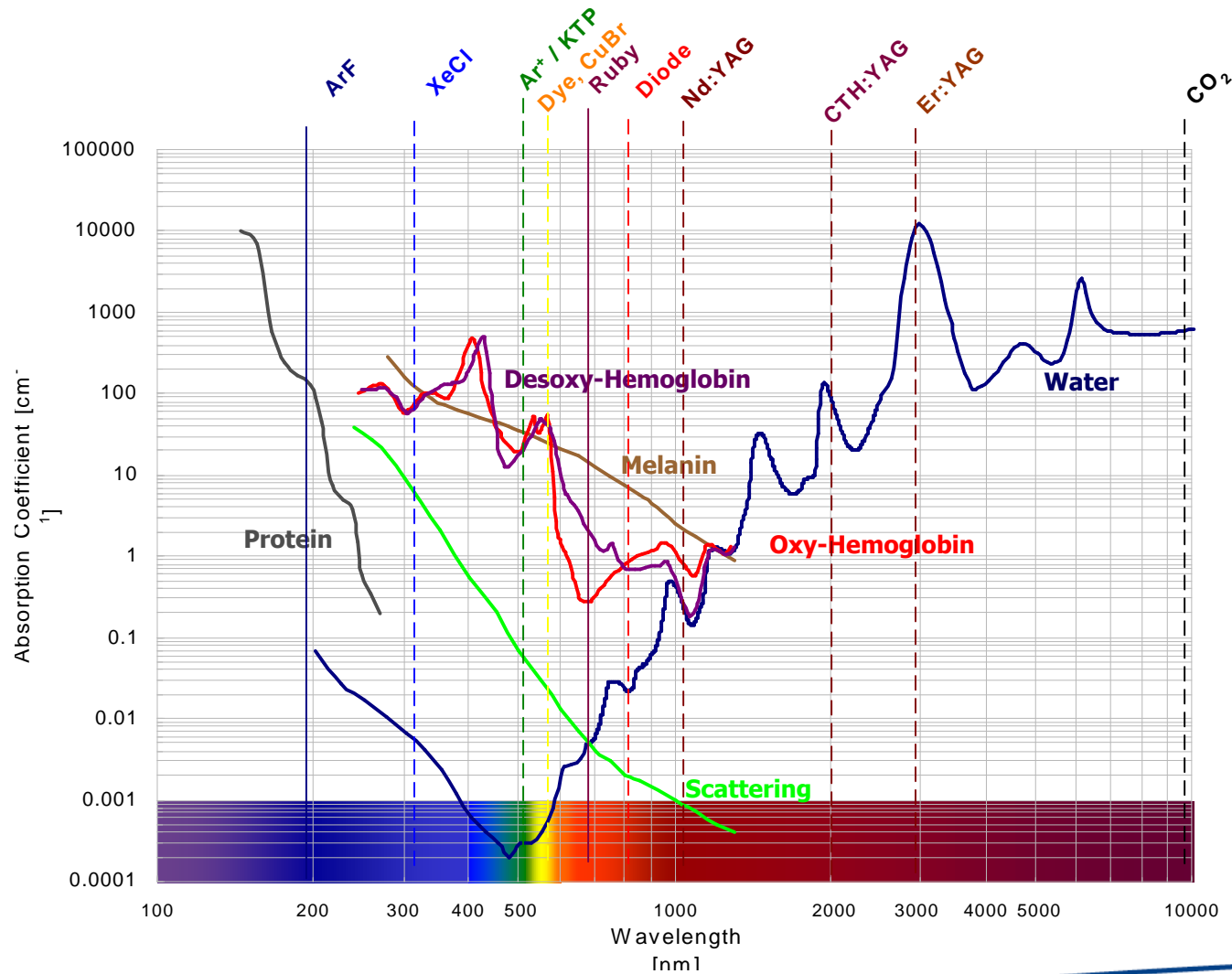
- the hair is most sensitive to laserlight at the anagen stage only
- the hairs which have been destroyed will never grow again
- several treatments are necessary

MeDioStar XT – principle of hair removal



- gentle, convenient, fast and effective treatment at the lowest pain level
- no anaesthetics required

MeDioStar XT – principle of hair removal



- high absorption in melanin
- low absorption in water and hemoglobine
- selective photothermolysis thus high efficacy and no side effects

IPL



MeDioStar XT - features



- safe, fast , less painful
- double - pulse - system
- superior skin - cooling - system
- tip - cooling - system
- homogenous beamprofile (spot)
- selective wavelength
- selective pulselength
- high power

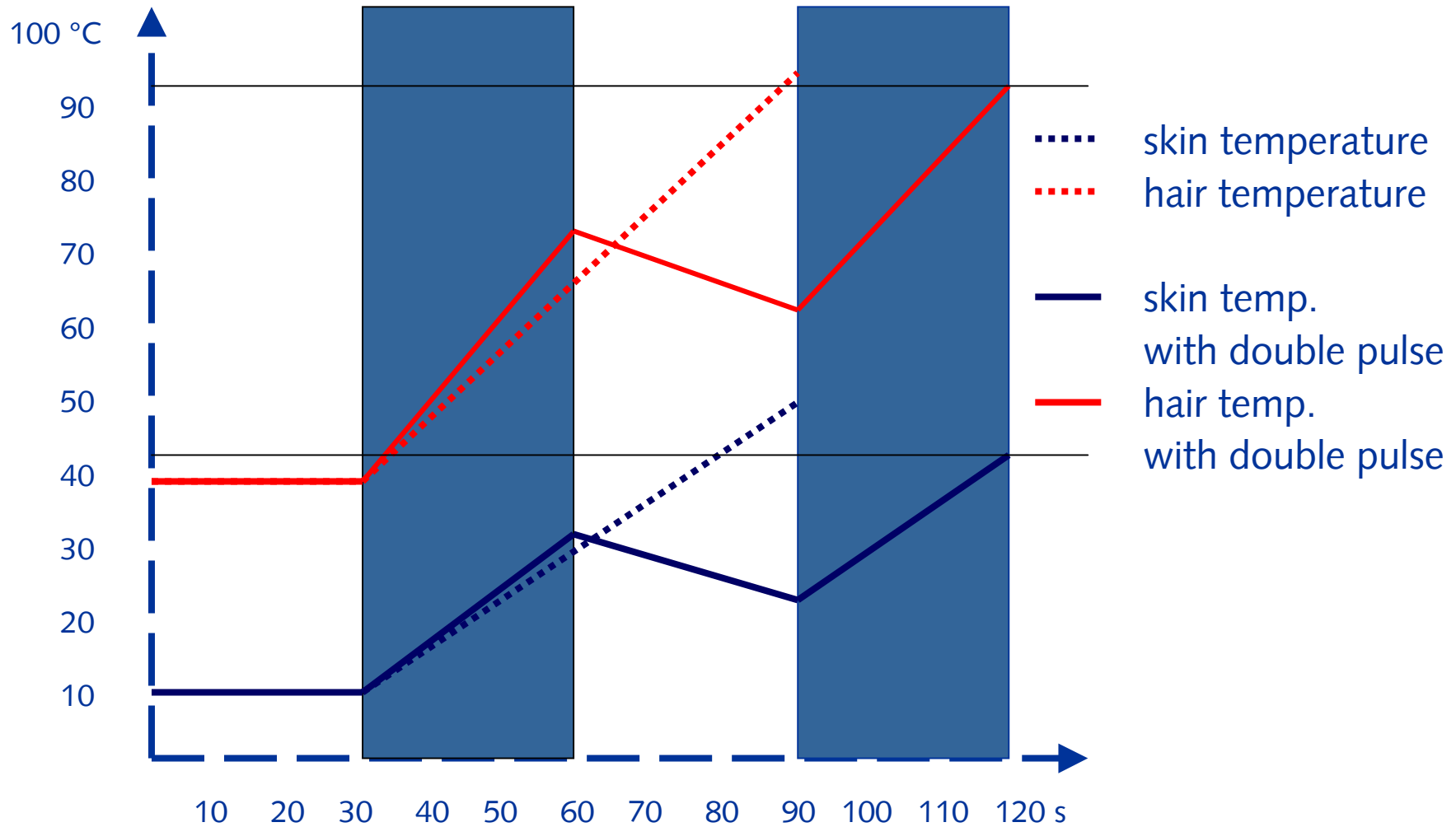
MeDioStar XT - features



- pulse - pause between two pulses allows skin to cool down and to recover
- almost no cooling effect inside of the hair - shaft (thermal relaxation time TRT)
- longer pulses duration protects epidermis in darker skin



MeDioStar XT double pulse system



MeDioStar XT skin cooling



Peltier Skin Cooling

- electrically cooled metal contact probe cools the epidermis prior to the laser pulse
- additional cooling during laser pulse with the cooled laser contact probe
- continuous monitoring of cooling temperature (25 °C)
- automatic switch off function (2 min.)



MeDioStar XT handpiece



handpiece: light-weight and safe

- new ergonomic design
- 250 g weight only
- changeable tips (plug and play)
- automatic spot size detection
- laser contact probe for optimal transmission of light
- optical diode technology
- double skin cooling
- diode is not in the handpiece

* several patents pending

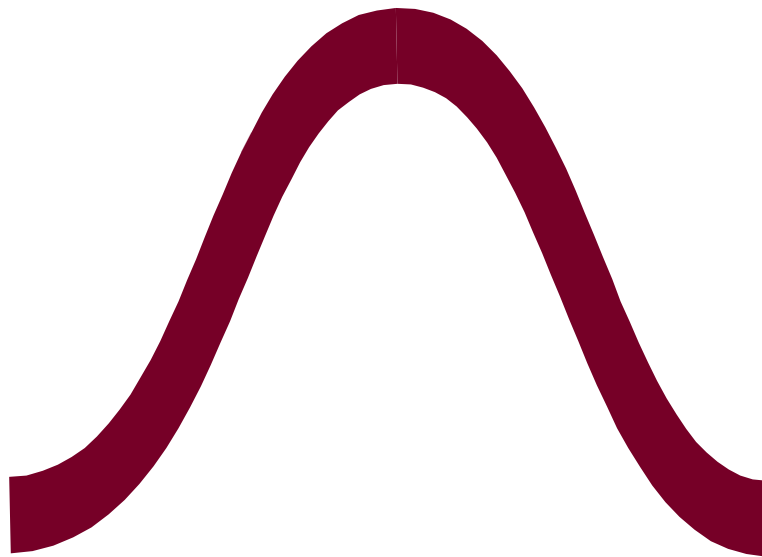


MeDioStar XT beam profile

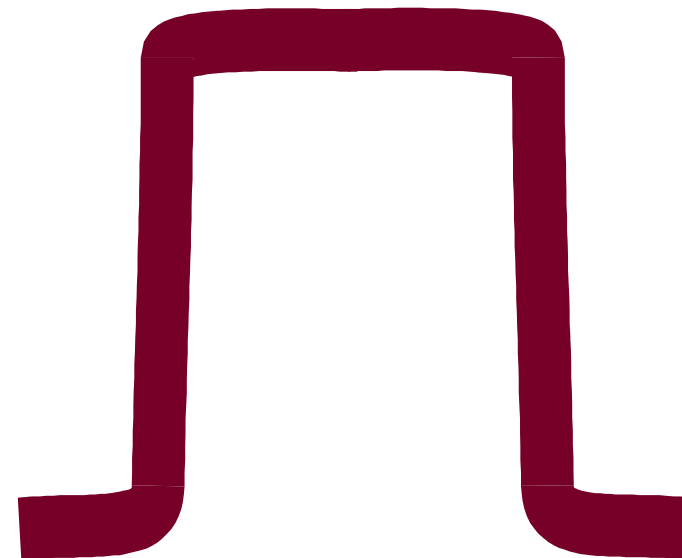


- maximal use of laser energy for the treatment (no overlapping)
- accuracy for professional treatment (no hot spots)

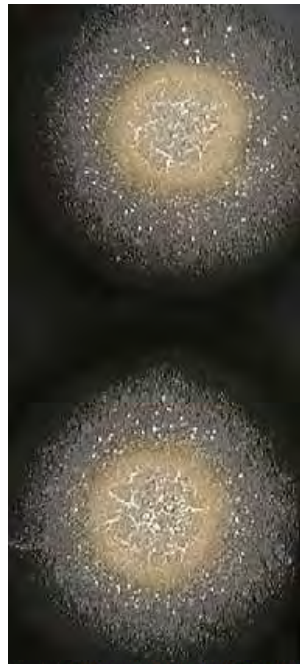
typical laser profil



MedioStar flat - top - profile



MeDioStar XT beam profile



right:
homogenous spot generated by the
patented MedioStar handpiece

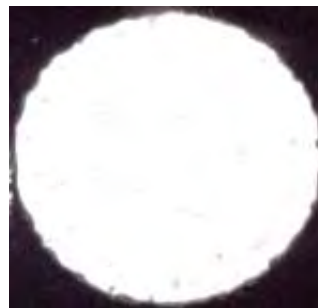
left:
poor energy transmission with a non -
contact Alexandrite laser



MeDioStar XT beam profile



right:
patented MeDioStar hand-piece
with homogenous spot



left:
poor energy transmission with a
contact laser (Lightsheer)

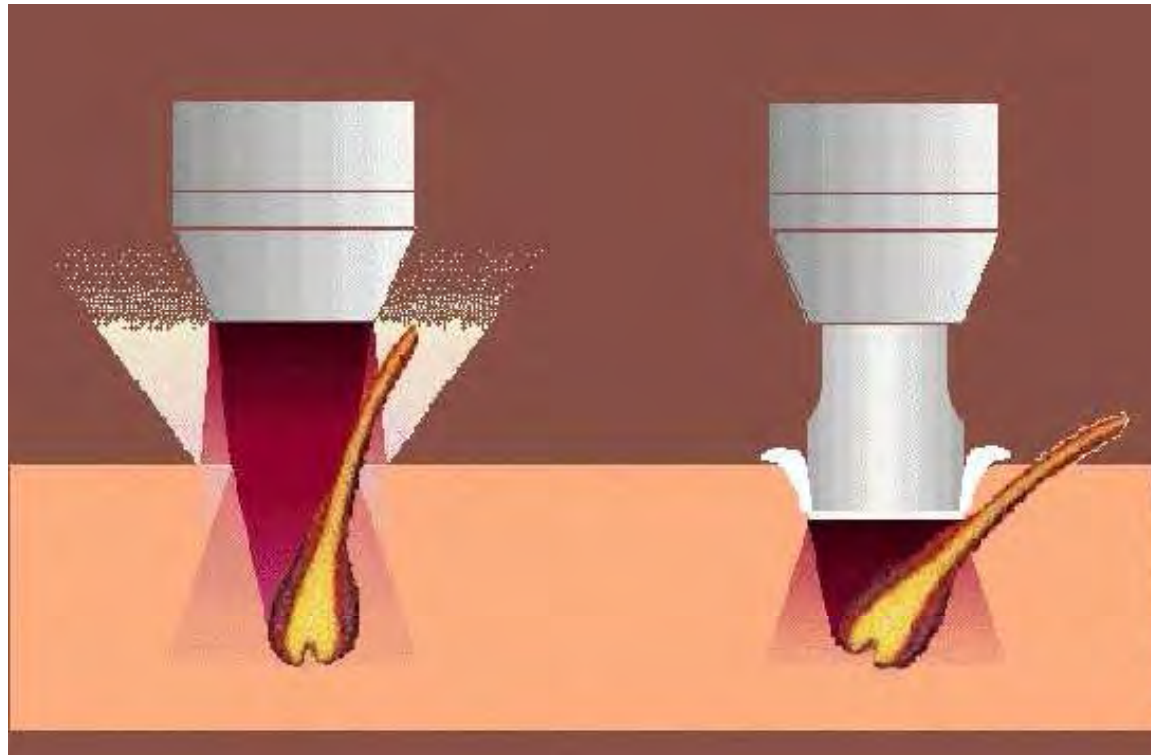


MeDioStar XT contact application



- less scattering of light
- lower distance to hair roots
- direct in-coupling of light
- safe treatment (doctor)

MeDioStar XT contact application



- avoid up to 60% of reflection
- avoid scattering of light in the air
- avoid scattering of the light in skin
- shorten of distance to the hair root
- ultra-sound gel supports the coupling of light into skin

MeDioStar XT clinical comparison



clinical study results UK 2001/2002 MeDioStar via Light Sheer
2 Samples of High-Power-Diode-Laser treatments

- Patient 1 (no.291) – Caribbean skin type Fitzpatrick III
- Patient 2 (no. 846) – Light skin type Fitzpatrick I



MeDioStar XT vascular



Launch of the vascular hand-piece at the 20th World Congress of Dermatology in Paris, July 2002

- Contact Treatment of Leg Veins (diameter 0,5 to 2 mm)
- FDA – approved
- Wavelength: 810nm
- Pulse Duration: up to 500 ms adjustable
- Treatment Speed: up to 2Hz
- Spot Size: 4mm and 6 mm
- Fluence: up to 170 J/cm² adjustable

the MeDioStar is upgradable for vascular treatments



MeDioStar XT vascular

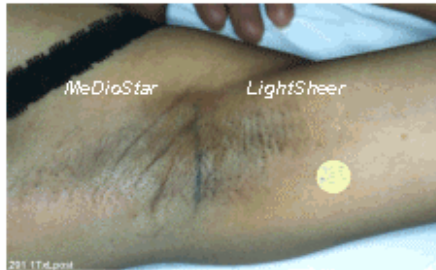


before treatment



immediate after treatment

MeDioStar XT clinical comparison



Immediately post first treatment

Left: MeDioStar
31 J/cm², 2 Hz, 65 ms pulse
precooling Peltier device

Right: LightSheer
23 J/cm², 2 Hz, 50 ms pulse
cooled sapphire window

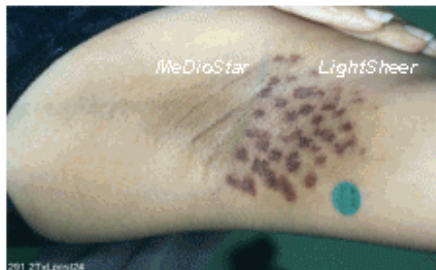
- note dark “carbonised” and distorted ends of shaved hairs
- note grey colour of sapphire window contact areas and heavy “carbonising” of shaved hair follicle ends
- dark hyperpigmented areas corresponding to the sapphire window contact areas



Immediately post second treatment (6 weeks later)

Left: MeDioStar
31 J/cm², 2 Hz, 65 ms pulse
precooling Peltier device

Right: Light Sheer
23 J/cm², 2 Hz, 50 ms pulse
cooled sapphire window



24 hours after second treatment

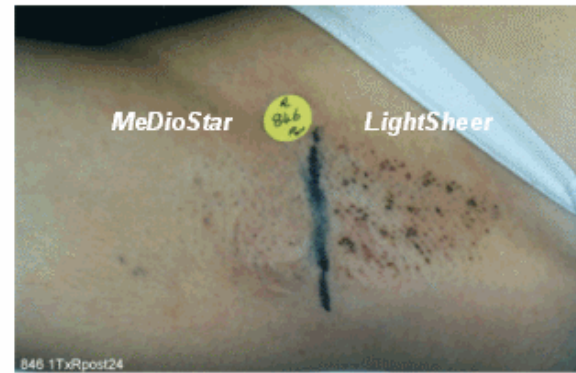
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31 J/cm², 2 Hz, 65 ms pulse
precooling Peltier device

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cooled sapphire window

MeDioStar XT clinical comparison



Pre treatment – normal skin



24 hours after first treatment

Left: MeDioStar

31 J/cm², 2 Hz, 65 ms pulse
precooling Peltier device

Right: Light Sheer

23 J/cm², 2 Hz, 50 ms pulse
cooled sapphire window

clear evidence of “crusting” which resolved in 4-7 days, left segment treated with MeDioStar showing only some minor residual peri-follicular edema and erythema

MeDioStar XT advantages



- pulse length setting independently from fluence and frequency
- pulse interval on/off

- diodes not in handpiece (lightweight, safer, more convenient)
- tapered tip with very homogeneous spot
- spot diameter is variable with the same console and handpiece
- skin cooling transmission 8 times higher

- higher frequency possible up to 4Hz for dark skin type)
- larger spot sizes possible (up to 14mm for dark skin type)



MeDioStar XT advantages



- internal energy calibration:
a dirty chill-tip or calibration port of LightSheer results in too high fluences and possibility of overtreatments
- the skin cooling system of Lightsheer is subject to condensation
- after 15 minutes of highpower - use: the Lightsheer has to be switched off
- wider action range of applicator (1,50 m)
- multiple application with the same handpiece
- pulselength up to 500ms
- continuous skin temperature monitoring



MeDioStar pigments



clinical evaluation on sun damaged skin pending

Laser Skin and Vein Clinic, Adelaide, South Australia by courtesy of Dr. Sue McCoy

MeDioStar pigments



methods and materials:

- 12 female patients 44 – 74 years
- lentigines on hands/forearms and one suitable for biopsy
- 25 to 50 J/cm², 2 biopsies at each fluence
- 12 & 6mm spot, non-contact treatment



MeDioStar pigments



lentigines before

6 mm, 30 J/cm², 17 ms



2 weeks after



6 weeks after treatment

Laser Skin and Vein Clinic, Adelaide, South Australia by courtesy of Dr. Sue McCoy

MeDioStar pigments



lentigines / seborrheic keratoses before and 6 weeks after treatment
6mm spot, 35 J/cm², 20ms

Laser Skin and Vein Clinic, Adelaide, South Australia by courtesy of Dr. Sue McCoy

MeDioStar XT hair removal



bikini line before and 1 month after the 3rd treatment

Source: Department of Dermatology, University Regensburg

MeDioStar XT hair removal



beard woman before and after 6 treatments

Source: Dr. Paul Wood, Proderma, Bad Homburg

MeDioStar XT hair removal



back male before and 3 months after 4 treatments, 20 J/cm²

Source: Dr. Paul Wood, Proderma, Bad Homburg

epilation prices Germany



Part of the body	Price (€)	Time (min)	No. Treatments
upper lip	50-95	2	3-6
full face	100-300	15	3-6
breast	100-250	5	3-6
bikini line	100-300	10-20	3-6
axilla	100-200	5-10	3-6
upper or lower arm	200-300	5	4-8
thigh	250-400	10-20	4-8
lower leg	250-350	10-15	4-8
back	200-400	20-25	5-10

