

Light Coagulator Digital

for hemostasis at the parenchym



- Simple and safe hemostasis through specific and controlled light emission
- Split-second action
- No blood dryness necessary
Also functions in blood accumulation.
- No current
- No consumables



Functional Methods of the Light Coagulation

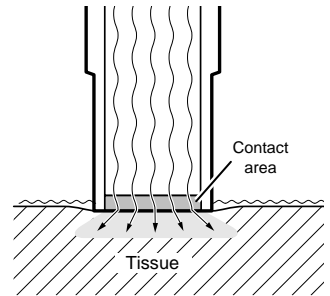
The tip of the probe is gently pressed onto the tissue surface (contact coagulation).

As a result, a certain hemostasis is already created, preventing further blood flow.

Subsequently, a time-controlled intense light impulse is emitted.

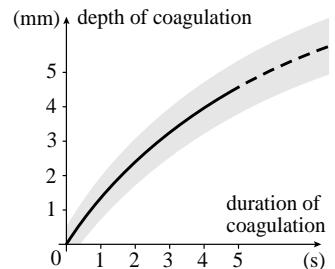
At the speed of light, the emission enters a few millimeters into the bleeding tissue, where it is absorbed and converted to heat.

According to the duration of application and the structure of tissue, sufficient temperature is obtained after a few seconds to achieve the following effect on the tissue.



Effect	Temperature	Duration of Impulse	Coagulation Depth
Denaturalization	at approx. 50-60°C	approx. 0,5-2,0 sec	approx. 1-2 mm
Evaporation of Cell Water	at approx. 100°C	approx. 2,0-3,5 sec	approx. 2-3 mm
Collagen (Glue)	at approx. 170°C	approx. 3,5-5,0 sec	approx. 3-5 mm
Carbonization	at approx. 300°C	over approx. 5,0 sec	max. approx. 5-7 mm

The diameter of the coagulated site corresponds approximately to the diameter of the contact area. The coagulation depth corresponds in millimeters approximately to the coagulation period in seconds.



Advantages of the Light Coagulation

- **The effects are locally confined through a controlled emission of light. Hence, no threat to neighboring tissue and no danger of perforation.**
- **Reliable hemostasis is guaranteed through split-second action. Less consumption of blood conserves, shorter surgeries and extra time in emergency situations.**
- **Through the combination of light and tissue contact, the instrument performs reliably when dealing with diffuse, widespread bleeding or unlocalized origins of bleeding. Hemostasis is possible at all time, especially without preparatory measures such as vacuum-pumping or prior blotting of the area.**
- **The functional principle „light“ excludes any adverse reactions. No threat of burns through electricity as well as no costs through expensive gases or coagulating glue as consumables. No extensive safety measurements necessary.**
- **No smoke development.**
Painless coagulation in biopsies.

Application Areas of the Light Coagulation



The LC 250 D and its specially designed instrumentation, are ideal for effective, locally confined coagulation in the following areas of endoscopic procedures, as well as conventional methods, in the following areas:

Hemostasis in Abdominal Surgery - Tumor Surgery

atypical and anatomical partial hepatic resections
resection of liver metastasis
wedge-shaped excisions of liver biopsies
Echinococcus cyst excisions
liver transplantation

Hemostasis in Abdominal Surgery-Traumatology

for both children and adult patients
superficial capsule lesions of liver and spleen
deeper ruptures of the liver and the spleen

Hemostasis in Urology

kidney tumor enucleation
renal cyst resections
heminephrectomy
kidney ruptures
diffuse bleeding of small retroperitoneal vessels

Hemostasis in Thoracic Surgery

parenchym sealing of wedge-shaped excisions
parenchym sealing of segment resection and lobectomy
coagulation of small emphysema blisters
coagulation of open lung biopsy
palliative operation for histology
petechial thorax wall bleeding

Hemostasis involving Rectoscopy Procedures

polypectomy
mucosa biopsy
diagnosis of chronic inflammatory intestinal diseases
tumor tissue biopsy
biopsy of anastomatic areas
biopsy of scarred tissue
palliative therapy of heavily bleeding tumors or large polyps without tissue removal

Hemostasis in Gynecology

conization
resection of myometrial tumors
surgical therapy of endometriosis

Hemostasis in Proctology

analpolypectomy
removal of excessive tissue (skin tags) from healed hemorrhoids
hemorrhoidal bleeding
abscess and fistula surgery
• fissure coagulation
• condylomectomy

Hemostasis in Colostomy (Anus Praeter Patients)

post polypectomy of chronic inflammatory intestinal diseases and granulation polyps

Hemostasis in Out-Patient Surgery

soft tissue tumors, ex: lipoma, fibroma, hemangioma or lymph fistula formation
deeper lymph node resections (diffuse bleeding)
septic procedures, ex: abscesses, infected atheromas and furuncles, especially in patients with low clotting reaction values
varicose veins – but without skin contact

Hemostasis in Minimal-Invasive Surgery

gall ectomy
hernias
biopsies
biopsies operation using trocar and rigid endoscopy
laparoscopy

Further operational areas of the LC 250 D

hemostasis in the gall bed
hemostasis in stomach wall surgery
hemostasis in arthroscopic procedures
hemostasis in tonsil operations





The product program of Light Coagulators for universal use

The Light Coagulator is offered in the following different versions:

• LC 250 D

The Light Coagulator LC 250 Digital contains all standard probes with flat and wedged contact heads in their various angles as well as a pistol-shaped probe adapter, controllable via handswitch, for endoscopic and numerous screw-in probes.

From the connection to the power supply onwards, all components are autoclavable and allow for use in open, as well as endoscopic, surgery.

• LC 200 D

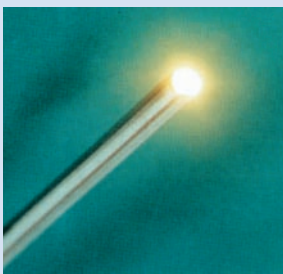
Besides the main unit, the Light Coagulator LC 200 D also contains a pistol-shaped probe adapter for all kinds of endoscopic and screw-in probes. The adapter is autoclavable.

When using the appropriate probe, the LC 200 D allows for use in all areas of hemostasis including large-scale open surgery.

• LC 150 D

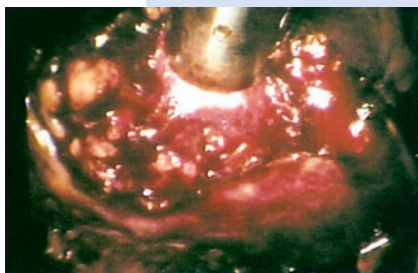
The Light Coagulator LC 150 D also contains a main unit and a pistol-shaped probe adapter which is not autoclavable. All screw-in probes, both autoclavable and non-autoclavable, are suitable for use with the LC 150 D.


The LC 150 D's main areas of application are in proctologic and simple endoscopic procedures such as the coagulation resulting from biopsies.



Examples for Possible Utilization

- Laparoscopy
- Thoracoscopy
- Biopsy
- Arthroscopy
- and many more...



The Light Coagulators LC 250 D, LC 200 D and LC 150 D are -conform according to MPG 93/42/EWG

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