

SETTINGS AND GUIDELINES FOR BLEEDING COLONIC LESIONS

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	ANGIOMAS OR RADIATION TELANGIECTASIA		POST-POLYPECTOMY, DIVERTICULOSIS, FOCAL ULCER, OR SOLITARY RECTAL ULCER		
Multipolar Coagulation (Gold Probe)	Active Bleeding ⁵	Non-Bleeding	Active Bleeding ⁶	Non-Bleeding Visible Vessel (NBVV)	Adherent Clot ⁶
Probe Size ^{2,3}	Large	Large or Small	Large	Large	Large
Pressure ⁴	Light	Light	Moderate	Moderate	Moderate
Power Setting (watts) ¹	10-14	10-14	12-16	12-16	12-16
Pulse Duration (sec)	1	1	1-2	1-2	1-2
End Point ⁵	Bleeding stops	White coagulum	Bleeding stops, vessel flat	Flatten NBVV	Flatten and whiten vessel

1. These are general guidelines which were developed from laboratory and clinical prospective studies. Power, pressure, and pulse duration should be reduced for small or deep colonic lesions. Repeated coagulation on the same point of a flat lesion such as an angioma will cause transmural coagulation and increase the risk of perforation. The CURE Hemostasis Research Group recommends checking probes for heating or coagulation prior to endoscopic application.
2. Small diameter colonoscopes with a large diameter suction channel (3.7 – 3.8 mm) are recommended for all colonoscopies on patients with severe lower GI hemorrhage. These facilitate suctioning and allow the endoscopist to pass a large diameter coagulation probe (3.2 mm diameter). Large diameter probes are recommended for treatment of all actively bleeding lesions and for treatment of angioma or radiation telangiectasia > 3 mm in diameter.
3. Small diameter thermal probes (~2.4 mm diameter) have less washing capacity, less volume of coagulation, and are more likely to bend with passage through a colonoscope. These are recommended for coagulation of small angiomata or radiation telangiectasia.
4. Pressure can be exerted en face or tangentially directly on the bleeding or non-bleeding lesion. In the colon, firm tamponade with the coagulation probes and colonic distension should be avoided, because these will increase the risk of complications related to transmural coagulation.
5. The endpoint for actively bleeding lesions is acute hemostasis. However, repeated coagulation to the same point to control oozing from angiomata and to achieve a totally dry field may be unnecessary and will increase the risk of transmural injury.
6. Pre-injection with 1:10,000 epinephrine in 4 quadrants around the actively bleeding lesion or clot pedicle is recommended, then cold guillotine off the clot to shave it down to 2-4 mm above attachment before multipolar coagulation.

SETTINGS AND GUIDELINES FOR ULCER, DIEULAFOY'S LESION AND MALLORY WEISS TEAR TREATMENT

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	PEPTIC ULCER			DIEULAFOY'S LESION		MALLORY WEISS TEAR
Multipolar Coagulation (Gold Probe)	Active Bleeding ⁵	Non-Bleeding Visible Vessel	Adherent Clot ⁵	Active Bleeding ⁵	Non-Bleeding Visible Vessel	Active Bleeding ⁵
Probe Size ²	Large	Large	Large	Large	Large	Large or Small ³
Pressure ⁴	Very Firm	Very Firm	Firm	Firm	Firm	Moderate
Power Setting (watts) ¹	12-16	12-16	12-16	12-16	12-16	12-14
Pulse Duration (sec)	10	10	10	10	10	2
End Point	Bleeding stops, vessel flat and white	Visible vessel flat and white	NBVV or clot remnant flat and white	Bleeding stops, vessel flat and white	Visible vessel flat and white	Bleeding stops, vessel flat and white

1. These are general guidelines that have been standardized from CURE laboratory and randomized endoscopic studies. Power, pressure, and pulse duration settings must be reduced for small, acute, or very deep gastrointestinal bleeding lesions. The CURE Hemostasis Research Group recommends checking probes prior to endoscopic application and resuscitation of the patient before and during endoscopy. If endoscopic therapy (with combination epinephrine injection and multipolar probe) fails to control active bleeding or prevent rebleeding, continued resuscitation of the patient and gastrointestinal surgery are recommended.
2. Single or double large-channel endoscopes are recommended for all emergency endoscopies for severe upper gastrointestinal hemorrhage. Large diameter thermal probes (~3.2 mm in diameter) are recommended for all non-variceal bleeding lesions or non-bleeding visible vessels except for small arteries (spurts) in Mallory Weiss tears (< 0.5 mm in diameter).
3. Small endoscopic thermal probes (~2.4 mm in diameter) have less tamponade capability, washing capacity, and volume of coagulation than large probes and are only recommended with coagulation through large-channel endoscopes for small Mallory Weiss tear spurts.
4. Pressure refers to the tamponade pressure exerted en face or tangentially by way of the contact probe, directly on the bleeding lesion or non-bleeding visible vessel. Sufficient pressure to stop the bleeding before coagulation is recommended for those with active bleeding.
5. Pre-injection with 1:10,000 epinephrine in 4 quadrants around the actively bleeding lesion or clot pedicle is recommended, then cold guillotine off the clot to shave it down to 2-4 mm above attachment before multipolar coagulation.

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