principles of electrosurgery

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Bleeding encountered during an operation can be arterial, venous or capillary . Surgical haemorrhage is categorised as primary (during the operation), reactionary (24–48 hours postoperatively) or secondary (days to weeks postoperatively). Reactionary haemorrhage is usually a consequence of a slipped ligature or when a vessel injury is missed with bleed ing temporarily stopped owing to a combination of vasocon striction and hypotension. In the postoperative period, once blood pressure improves bleeding will ensue. Secondary hae morrhage is often a manifestation of a deep-seated infection eroding into a blood v essel. As depicted in Summary box 7.8 , it is obvious that ther is a plethora of devices and techniques to help control surgi cal bleeding; however, there can be no substitute for adequate preoperativ e preparation, careful management of antiplatelets and anticoagulants and meticulous surgical technique. When establishing haemostasis, care should be taken to avoid damage to adjacent nerves and organs, prevent unin tentional vascular thrombosis and avoid adjacent tissue injury . Plunging clamps and suturing blindly in pools of blood may cause more damage than serving any purpose. The appropriate use of di ff erent tec hniques to control haemorrhage will depend on the site of bleeding, the extent of bleeding and the surgical pathology encountered. Summary box 7.8 Common haemostatic technique used intraoperatively /uni25CF /uni25CF /uni25CF /uni25CF /uni25CF /uni25CF /uni25CF /uni25CF /uni25CF /uni25CF /uni25CF /uni25CF /uni25CF /uni25CF

Mechanical Digital pressure Ligatures Haemostatic clamps and ligating clips Vascular stapling devices Wound packing Bone wax Image-guided embolisation Thermal Electrosurgery Cryosurgery Argon beam coagulation Vessel sealing devices Chemical or topical haemostatic agents Physical: absorbable collagen, gelatin, oxidised cellulose Biological: topical thrombin, /f_i brin sealant, tranexamic acid

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