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# New advances in management of acquired abdominal wall defects

An Essay  
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in general surgery

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## Abstract

*Many causes for acquired abdominal wall defects were detected like burst abdomen, incisional hernia, post laparoscopic, post infectious, post tumour resection so many methods developed to repair these defects ranging from simple direct closure until free flaps according to the reconstructive ladder plus new methods like vacuum assisted closure (VAC) and tissue expansion.*

### Summary:

The goals of abdominal wall reconstruction are protection of the abdominal contents, restoration of the integrity of the abdominal wall and its dynamic support.<sup>1</sup>

Study of the layers of the abdominal wall and the anatomic transitions is vital for diagnosis and management. Anterior abdominal wall defects can be classified into congenital and acquired defects. Congenital defects include omphalocele, gastroschisis, prune belly syndrome and exstrophies. Acquired defects include burst abdomen, hernias including incisional and divercation of recti, post laparoscopic post-infectious, post burn, post-radiation therapy defects and post tumour resection.<sup>2</sup>

The preoperative evaluation should include full history and evaluation of the general condition. Before developing a reconstructive plan, it is imperative for the surgeon to have a thorough understanding of the nature of the defect as regards thickness, site, size and condition of wound bed.<sup>3</sup>

There are different techniques for abdominal wall reconstruction. Primary closure without tension is the simplest. Skin grafts can be applied temporarily over granulating surface, Autologous non vascularized fascial grafts have been used successfully to reconstruct the fascial defects of the abdominal wall with ample overlying skin and subcutaneous tissue.<sup>4</sup>

The VAC device has been used to treat defects of the abdominal wall as it enhance wound healing by increasing blood flow and bacterial clearance also it decreases edema of tissues.<sup>5</sup>

Components separation technique allows for the sequential advancement of tissue while providing dynamic support and continuity to the abdominal wall.<sup>6</sup>

The Use of tissue expanders provides good cosmetic results at the expense of prolonged, multi-staged therapy.<sup>7</sup>

Various local and distant flaps are available depending on the clinical condition. Cutaneous transposition or rotation flaps in upper or lower abdomen may be used. Fasciocutaneous flaps are used primarily to repair partial defects of the skin and subcutaneous tissues.<sup>8</sup>

Local muscle flaps are ideal for partial myofascial defects of the abdominal wall. Muscle flaps are sometimes necessary in contaminated fields or to provide coverage of mesh. The choice of flap depends on the location of the defect and available donor tissue.<sup>8</sup>

Distant muscle flaps are used in larger partial myofascial and complete defects not amenable to components separation or local flaps.<sup>8</sup>

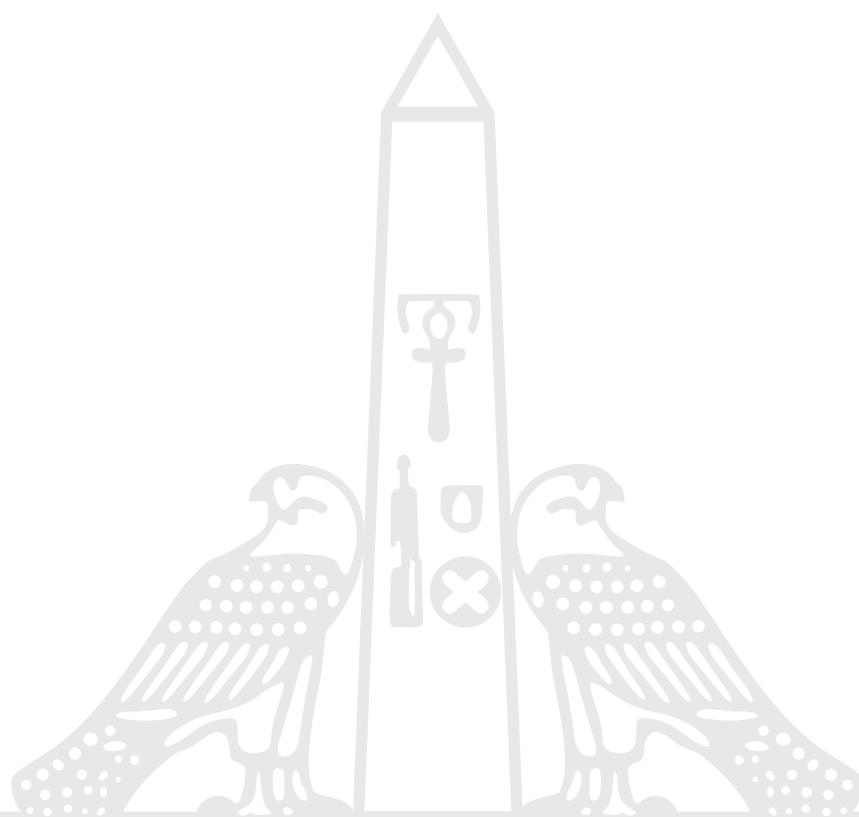
Free flaps are indicated in abdominal wall reconstruction when there is full thickness defect of moderate to large size, especially if the defects extend across the midline, supra-umbilical, contaminated or infected.<sup>8</sup>

Incisional hernial repair have many methods like: Mayo's repair, simple closure of fascial defect. Fascia lata graft but the better and the preferable by most surgeons is the prosthetic material.<sup>9</sup>

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