Mesh Repair of Hernia
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What is hernia?
Hernia is a purely surgical problem. A baby may be born with hernia or it can develop any time during normal life span as a spontaneous development or as a late complication of surgical wound following abdominal operation. Basically hernia is a defect or localized weak area in the boundary of the abdomen through which internal structures tend to come out during strain. The commonest hernia encountered as a clinical problem is groin hernia, more specifically the inguinal hernia. Whenever someone talks about hernia without qualifying it, usually it is considered to be inguinal hernia.

What are the dangers of hernia left untreated and what is the ideal treatment?
As it is mentioned at the beginning, it is a purely surgical condition; no medical treatment can solve the problem of hernia. Save and except some cases of infantile umbilical hernia, which regress spontaneously by two years time all other hernias need to be repaired by surgical procedure. Except in elderly frail patient having direct inguinal hernia surgery is always advocated whenever a hernia is diagnosed. The reason is very straight forward, as a hernia carries a constant risk of developing complication. When a hernia becomes trapped and being prevented to recede back, the next consequence is obstruction (luminal obstruction of the trapped intestine) leading to asphyxiating or strangulation- Without prompt and appropriate measures, the asphyxiated gut dies down due to lack of oxygen (that is gangrene) and surgery at this stage is mandatory but always associated with high morbidity and mortality. On the other hand planned and elective surgical repair is almost unassociated with any major complication.

Now the question is, which is the most effective method of repairing the hernial defect achieving cure with least possibility of recurrence. The effectiveness of any procedure of hernia repair is judged in terms of the incidence of recurrence of hernia. Though a recurrence of a hernia following repair may be due to multifactorial reasons, the technical aspect of a reparative procedure is one of the most important factor. The acquired hernias are always associated with attenuation of the local tissues to variable extent leading to development of a hernial sac (out pouching of the parietal peritoneum) protruding through the localized weak area. As the hernial sac enlarges it pushes the edges of hernial defect further away increasing the gap. The age of the patient, extent leading to development of a hernial sac (out pouching of the parietal peritoneum) protruding through the localized weak area. As the hernial sac enlarges it pushes the edges of hernial defect further away increasing the gap. The age of the patient, extent of the tissue attenuation and the gap the anatomical type of the hernia all are to be considered before selecting particular type of reparative procedure.

Acquired inguinal hernias can be repaired by so many techniques with the attempt at restoring the altered anatomy and strengthening the attenuate tissues. Over the past decades many procedures are designed and practiced. Presently on the basis of the effectiveness, shouldice procedure’ and mesh implantation repair are considered as standard techniques of inguinal hernia repair. Shouldice procedure is directed to repair of the fascia transversalis and narrowing of the deep ring reinforced by approximation of the conjoined tendon to the inguinal ligament. Shouldice technique is popular and widely practiced in North America and Canada. On the other hand mesh repair is the standard practice in UK. Besides inguinal hernia most of the cases of incisional hernias are best repaired by mesh implantation and the
The author's choice of procedure in big incisional hernias with excellent results obtained in more than hundred cases of mesh repair over the last eight years. In case of inguinal hernia repair the mesh may be implanted and sutured to the margin of the hernial defect as an isolated procedure or in case of bilateral hernias the mesh may be implanted preperitoneally by a lower mid line incision covering the both inguinal areas from within as well as covering the femoral ring with prevention of developing femoral hernia as well.

So this technique 3 provides protection of both types of inguinal direct/indirect and femoral hernias by a single procedure. Like many abdominal operations, inguinal hernia repair is also being currently practiced laparoscopically and in many centres of developed countries it has been standardized and made a regular practice with comparable results like that of standard open repair with less early postoperative morbidities. And again the basis of laparoscopic hernial repair is the placement of a mesh covering the hernial defect in the preperitoneal space either transperitoneal or preperitoneal approach.

The basic technique of mesh repair
The hernial sac is isolated and transacted at the neck and ligated (herniotomy). The margins of the hernial defect are defined and the mesh is tailored according to the extend of the defect. It is then sutured to the edge of the defect using polypropylene suture. In case of direct hernia the sac is inverted and the hernial defect covered by implanting the mesh. In incisional hernia, the mesh may be implanted as "on-lay" technique over the inverted sac or "Sandwitched" in between double breasting incised sac.

Complications of mesh implant and its prevention
After all a mesh is a foreign body and like any other implants always carries certain amount of risk of foreign body reaction and liable to be complicated by infection. The risk is heightened in immunocompromized patients. So prophylactic perioperative antibiotic is to be used always along with strict adherence to the aseptic and anti-septic rituals and meticulous surgical technique.

Conclusion
Mesh implant is now widely practiced as a standard technique and the author's choice of procedure for most cases of incisional hernias, recurrent inguinal hernias in elderly persons and in cases where factors like chronic strain is persistent like chronic cough etc. with potential risk of failure of simple anatomical repair.

Reference