

# Laser Technology for Prostate disease

Prostate is a walnut sized gland in a male just below bladder through which urethra passes. Enlargement of prostate is a aging process due to which patient feels difficulty in passing urine, thin stream of urine , hesitancy in voiding, burning pain while passing urine and sometimes retention of urine. Patient undergoes certain investigation including uroflometry and total S.P.S.A level . Operation for enlargement of prostate is needed when there is urinary tract infection , significant residual urine after voiding, blood passes in urine, creatinine and blood urea level increases and when there is associated bladder stone .For management of enlarged prostate conventional endoscopic resection of prostate ( TUR-P, Trans Urethral Resection of Prostate ) is carried out by urologists under anaesthesia an endoscope is passed through urethra and with the help of resectoscope , chips of prostate tissues are resected and all chips removed . Now latest evolution for treatment of enlargement of prostate was the introduction of **“LASER TECHNOLOGY”** . Laser treatment is one of the most encouraging minimally invasive treatment for symotomatic prostate gland enlargement . Success rate with laser treatment of prostate is very high compared to conventional endoscopic method.This treatment for prostate is very safe , easy and effective minimal invasive therapy. Especially laser therapy is beneficial for larger prostate (more than 50-60gms) where complication rate is much lower compared to conventional endoscopic resection of prostate (TUR-P) . In TUR-P, operative time is longer , complication rate is much higher where patient develops TUR-P syndrome in which patient develops low sodium level in blood (Hyponatremia) .There is insufficient resection of prostate with conventional endoscopic method in larger prostate gland while with laser treatment one can achieve complete removal of prostate adenoma. Here in laser therapy procedure time is shorter and fluid used for operation is normal saline . So there is no incidence of TUR-P syndrome with laser therapy blood loss is significantly less even in larger gland ( more than 100 grams) , so blood transfusion requirement is very rare, secondary hemorrhage & re-operation rate is very low.

Post surgery catheterisation time & hospital stay is only one day. It is an outpatient procedure for healthy patients. Now with this newer laser technology complete removal of large prostate is possible. Study shows with laser therapy, there is wide open prostates fossa after removal of large prostate, so it provides satisfactory out-come with low morbidity operation compared to conventional endoscopic method with laser treatment. There is minimal thermal injury to surrounding tissue. Laser treatment is equally safe and effective alternative for the minimal invasive management of enlarged prostate especially in cardiac patients receiving anticoagulant therapy. Patient quickly return to normal activity after laser therapy. Incidence of erectile dysfunction is less than one percent reported.

In market there are three types of laser machines for treatment of prostate disease. Thulium laser machine, holmium laser machine and greenlight KTP (Potassium Titanyl Phosphate) laser. Again these machines are of two types. High power (100-120 watt) and low power (30-80 watts) machines. Low power machines are not very much effective in removal of larger prostate gland and operative time is much longer while high power Thulium, Holmium or Greenlight HPS-KTP laser are faster and more effective for larger glands. High power laser machines are more safer in high risk and cardiac patients. If one has to select by which laser machine he should get prostatic surgery done then high power (120 watt) Thulium Holmium or KTP laser is recommended. High power (120watt) Thulium laser is latest on the horizon. It is very safe and effective for prostate. High power holmium (100watt) laser is also an alternative therapy for prostate than low power holmium laser (30-80watt). High power Green light (120watt) HPS-KTP laser is also advisable for better efficacy. Now laser is a highly acceptable treatment for prostate.