

# Aadicura™

Superspeciality Hospital  
— Putting Patients First —

## VASCULAR AND ENDOVASCULAR SURGERY

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**YOUR BLOOD**  
FLOWING

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**Contact**  
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## DEPARTMENT OF VASCULAR AND ENDOVASCULAR SURGERY

- When to consult your vascular specialist?
- What are the diseases related to artery and vein?
- What are the latest investigations available today?
- What are the latest treatment options available today?

The largest experienced team of **Vascular & Endovascular Surgeon** with advance solution of vascular disease.



**Dr. Vijay Thakore**



**Dr. Sumit Kapadia**



**Dr. Hiten Patel**



**Dr. Kushan Nanavati**

### VASCULAR AND ENDOVASCULAR SURGEONS

#### When to Consult **Vascular** Specialist?

- Visible large veins in leg (varicose vein)
- ENDOVENOUS ABLATION
- Diabetic Foot treatment
- Non Healing Ulcer treatment
- Severe pain in Leg after walking few steps
- Treatment of Gangrene in Foot/Hand.
- Bypass surgery of Leg / Abdomen / Neck vessels
- Dialysis access surgery – Arterio-Venous Fistula Surgery/Complex Dialysis access procedure.
- Treatment of Leg swelling (Deep vein thrombosis / Lymphedema)
- Catheter Directed Thrombolysis
- Stroke preventive Surgery of Neck artery
- Treatment of Vascular Malformation (Abnormal visible vessels/By birth abnormal vessels)
- Vascular injury



## VARICOSE VEINS

Dilated, tortuous & elongated veins in legs are known as varicose vein.

### Why do varicose vein develop?

- Post pregnancy
- Genetic tendency/ hormonal influence
- Secondary to Deep vein thrombosis
- Obesity
- Weakness of Vein Valves

### Varicose vein may cause

- Dull ache pain, skin discoloration, eczema, leg swelling
- Ulceration, Bleeding



## STAGES OF VARICOSE VEINS



Normal  
Veins



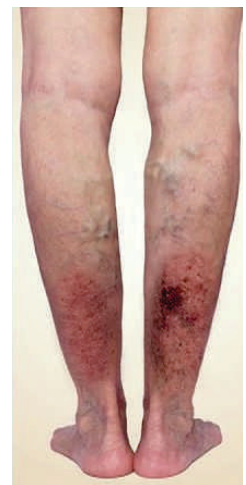
**1 Stage**  
Reticular Veins  
or Spider Veins



**2 Stage**  
Varicose Veins  
or Venous Nodes



**3 Stage**  
Edema of The  
Lower Leg



**4 Stage**  
Varicose Eczema  
or Trophic Ulcer



## Investigation to be done - **Colour Doppler** study of Leg

### What are the treatment options?

#### Minimally Invasive (Without Operation)

- Laser treatment
- Radio frequency ablation
- MOCA Therapy
- Glue Ablation therapy
- Foam sclerotherapy
- Hook phlebectomies



Color Doppler



Laser



RFA



Laser

MOCA



Glue

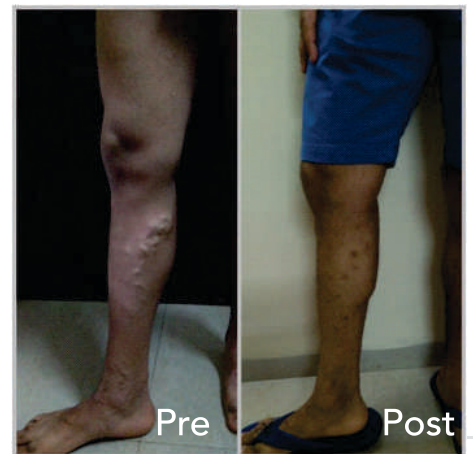
Glue



Sclero



Hook



Pre

Post

## PVD (PERIPHERAL VASCULAR DISEASE) - LEG ATTACK

PVD or PAD (peripheral arterial disease) is blockage of arteries supplying blood in lower limb.

### What are the symptoms of PVD?

- Pain in calf/thigh on walking
- Rest Pain & Burning Feet at night
- Gangrene
- Non healing Ulcers



### What are the reasons for development of PVD?

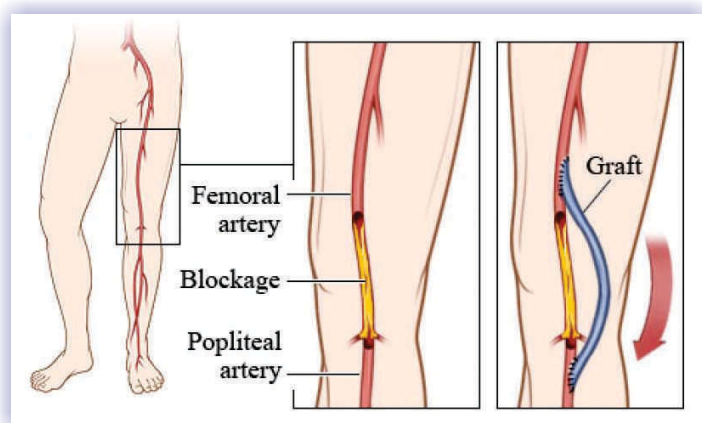
- Smoking / Tobacco
- Diabetes
- High cholesterol level
- High blood pressure
- Old Age

### What are the investigations available for PVD?

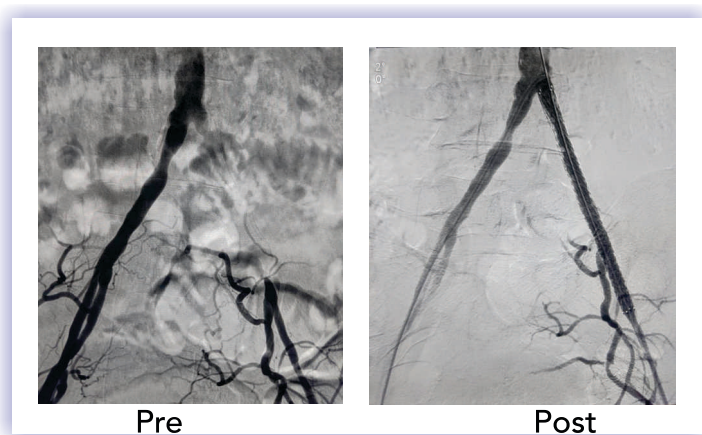
- Colour Doppler study
- CT Angiography
- DSA (Digital Subtraction Angiography)
- ABPI
- Tc PO2

### What is treatment of PVD?

- Medical management with blood thinners and cholesterol lowering drugs.
- Life style modification, control of sugar / hypertension/ cholesterol.
- Leg Bypass surgery
- LegAngioplasty and Stenting



Bypass Surgery



Angioplasty

## DEEP VEIN THROMBOSIS – (DVT)

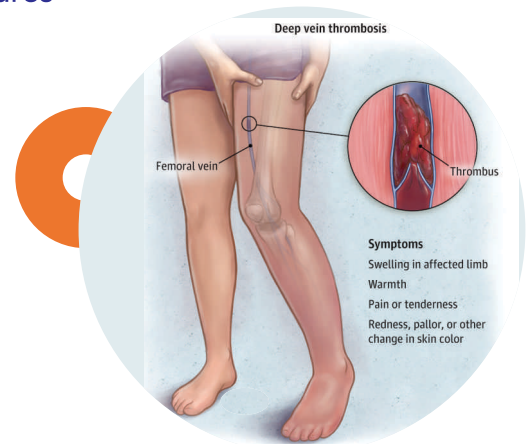
DVT is blood clot (thrombus) formation in main veins of legs / upper limb

### Who are at risk?

- Those with blood clotting tendencies
- Long travel history (Air travel, long car journey) Traveller's thrombosis
- Professionals sitting at a computer / confined to one chair for long hours (E-thrombosis)
- Post - surgery, after accident / fracture repair procedures
- Paralysis, long bed ridden conditions
- Cancer patients
- Pregnancy, contraceptive pill overuse
- Smoking, Obesity

### What are the symptoms / clinical presentation?

- Sudden onset leg or leg + thigh swelling
- Pain & heaviness in legs
- Can occur without any symptoms after prolonged period of bed rest / accident / surgery.



### What are the treatment options?

- Blood thinner medications
- Catheter Directed Thrombolysis procedure (clot removal from veins)
- PMT – Pharmaco Mechanical Thrombolysis – (Angiojet).

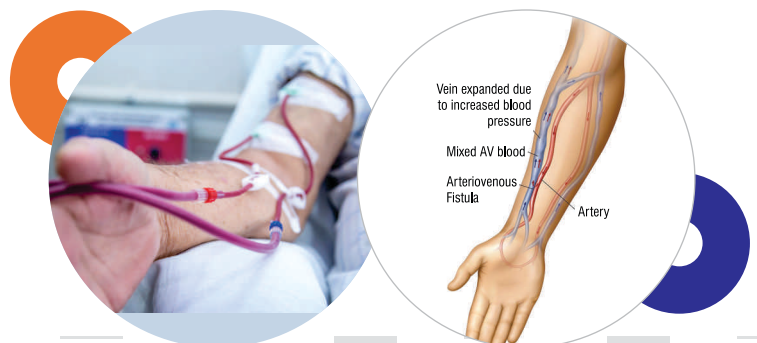


## DIALYSIS AV FISTULA

AV Fistula (Arterio-venous Fistula) is a lifeline for all kidney failure patients requiring Haemodialysis. AV fistula is surgically created connection between artery and vein.

### Types of AV Fistula

- Radio-cephalic AVF (Wrist)
- Brachio-Cephalic AVF (Elbow)
- Basilic Vein Transposition AVF (bypass surgery for AV fistula)
- AV graft (AVfistula with synthetic tube)





## STROKE / BRAIN ATTACK

Brain stroke or Brain attack is a condition similar to heart attack, occurring due to inadequate blood supply to brain.

### What are symptoms / presentation?

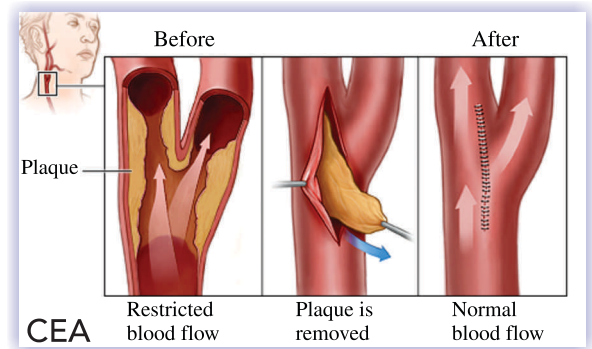
- Difficulty / disturbance in speech
- Transient blackout of vision
- Temporary / permanent paralysis (loss of movements) of hand/Leg

### What are the reasons for development of **Stroke**?

- Smoking    • Tobacco    • Diabetes
- High cholesterol level    • High blood pressure

### What are the Investigation?

- Colour Doppler sonography
- CT Angiography
- MR Angiogram
- DSA (Digital Subtraction Angiogram)



### What are the treatment options?

- Carotid Endarterectomy (CEA)

It is a surgical procedure for complete removal of blockage from the carotid artery and repair with patch.

- Carotid Angioplasty with Stenting

It is non-surgical procedure to re-establish blood flow in carotid artery with balloon angioplasty with stenting.



## What precautions do I need to take after undergoing AV fistula surgery?

- Regular Handgrip exercise with ball
- Avoid –needle prick, BP measurement over the operated limb.
- Avoid-External pressure over AV fistula
- Regular dressing & follow up with doctor.
- Do not use AV Fistula for dialysis before 6 weeks after surgery

## NON HEALING ULCER - WOUND CARE

Ulcer is raw area that develops due to discontinuity of skin surface which may get infected and lead to non healing wounds.

### Causes:

- Venous ulcer (due to varicose vein / post DVT)
- Arterial /ischemic ulcer
- Pressure ulcer
- Vasculitis/SLE/arthritis ulcer
- Diabetic foot ulcer

### New advance in treatment of non-healing ulcers

#### Venous ulcer:

- Laser /RFA / Glue /foam sclerotherapy
- **IVUS** (intravascular ultrasound) guided therapy for venous angioplasty and stenting

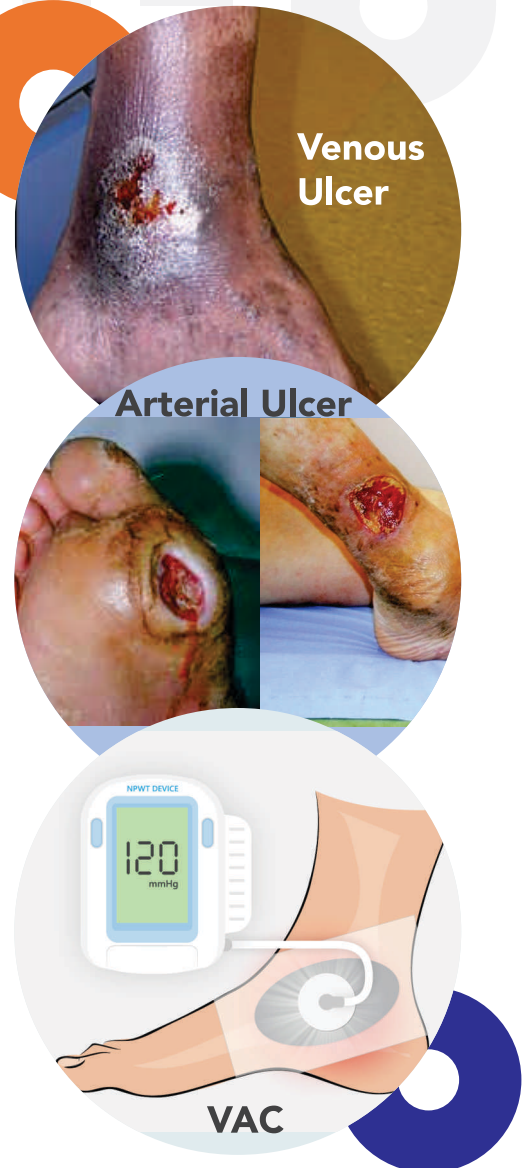
#### Arterial

- Leg bypass surgery / angioplasty / stenting
- Stem cell therapy

#### VAC - Vacuum Assisted Closure Dressing

Vacuum assisted closure or negative pressure therapy (NPT) is a newer technique which promotes wound healing & aids healthy granulation.

It is done by applying a foam like sponge which gets stuck to the ulcer & is connected to the machine via tubing which creates negative pressure which then aids early & easy healing.



#### HBOT (Hyperbaric Oxygen Therapy)

This is newer technique which helps early healing by increasing oxygenation in the body. In this treatment the patient has to lie down in a chamber where there is 100% oxygen & breathe normally. The therapy duration is about 60 minutes & there are sessions depending upon severity of diseases.

HBOT is very effective in diabetic foot ulcers, non-healing wounds, crush injuries etc.

