



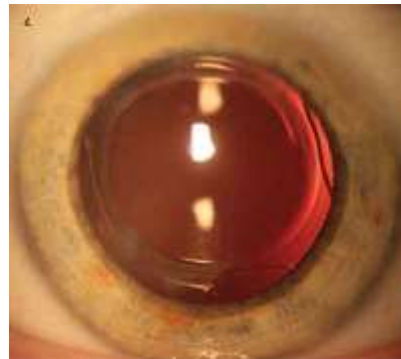
# Modern Cataract Surgery, Behind the scenes

By;

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- A successful surgery is the surgeon's own artistic work.
- A collaborative process in which talent is the main role on the stage but not the only one that matters.
- Behind the scene is where success begins to create a masterpiece of a surgery.
- Here are some of the commonly overlooked but immensely significant details.



## OBJECTIVES

- **Life threatening:**

Identify any factor that may put the patient or staff to additional risk (health, **medico-legal**),

- **Accessibility to the eye:**

- Avoid what make surgery is more difficult,
- And what make the prognosis guarded



## General history

- Age; extreme
- Occupation; VIPs,
- Recommended
- Personality;
  - type A,
  - Obsessive,
  - Mental instability,
  - Claustrophobia
- Systemic disease; dyspnea
- Social history; care
- Drugs (Anticoagulant, prostate)



## Alarms in general history

- Myocardial ischemia  
( unstable angina, MI or coronary stent in the last 3 months)
- TIA in last 3 months
- Uncontrolled hyperglycemia
- Uncontrolled arrhythmia
- Supra-therapeutic INR (3)
- Acute systemic illness (ARF)
- Anesthetic risk ( Homocystienuria)



## Alarms in General Examination

VA, ACCESS, PROGNOSIS

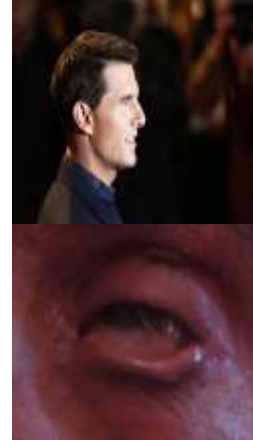
- Kyphosis
- Airway; tracheostomy scar
- Tremors
- Septic foci; venous leg ulcer
- Deafness
- COPD



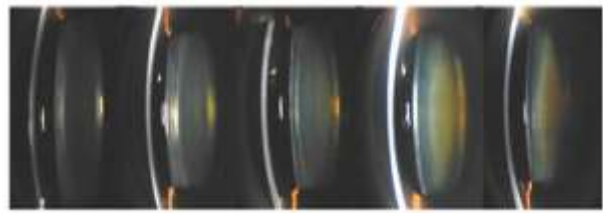
# Ophthalmic examination

VA, ACCESS, PROGNOSIS

- Supra-orbital ridge, sunken globe
- Lid mal-position
- Ocular surface;  
**inflammation Vs infection**
- Before dilatation;  
**Rubeosis, pupil reaction,  
angle, iris itself**



- Cornea; dystrophies, opacities
- Pupil
- AC depth
- Density of cataract, **optic disc**
- Detailed dilated fundus examination  
(Eg, AION, RP, CNV, Scar, Hole, DR, etc)



## Medico-legal aspects

- **Patient rights;**
  - Informed consent,
  - Documentation,
  - Licensed center,
  - Equality,
  - Research anticipation rejection,
  - Confidentiality.
- **Surgeon rights;**
  - Selectivity



## Informed consent

- **Illustration and discussion;**
  - The nature of disease,
  - Alternative to surgery,
  - Technique,
  - Complication,
  - Possible life style changes,
  - Videos,
  - Include relatives.



## Investigation

- General
- Investigation for GA
- Specific investigation



## GA investigation (ASA)

<b>ASA I</b>	<b>Fit and healthy</b>
<b>ASA II</b>	<b>Mild systemic disease without functional limitation (smoking)</b>
<b>ASA III</b>	<b>Severe systemic disease with functional limitation</b>
<b>ASA IV</b>	<b>Severe systemic disease (life threat)</b>
<b>ASA V</b>	<b>Not expected to survive for 24 h with or without surgical intervention</b>
	American Society of Anesthesiologist

## Specific investigation

- **Hematological and biochemical for;**

1. Acute systemic illness
2. Renal or Hepatic
3. Metabolic or Endocrinal
4. Medication (cardiac, diuretics, steroids)
5. Cardiac

- **ECG for;**

1. Heavy smoking or excessive alcohol
2. DM, HTN
3. Renal or cardiac
4. Over 50 y

## Special general situation

- **DM;**

- Blood sugar control
- Early morning cases
- No upper limits despite good general condition
- HbA1c < 10
- MOHP; 300

- **HTN;**

- 180/110
- Avoid acute lowering of blood pressure

- **IHD;**

- Available sub-lingual GTN

- **Renal dialysis;**

- Check hematological, biochemical, electrolyte condition
- At the day or shortly before dialysis

- **Valvular heart disease;**
- No need for systemic antibiotics
- **Anti-platelet and anti coagulant;**
- No need to stop
- INR checked at the day of surgery
- Not more than 3
- Peri-bubar and retro-bulbar <2.5
- Sub-Tenon <3.5
- Hematologist change warfarin to heparin
- **Pace-maker;**
- Cardiologist consultation
- Re-programming

## Management of;

- **Anaphylaxis**
- **Hypoglycemia**
- **Sever local toxicity**
- **Needle stick injury**



## Anaphylaxis

- **Type I** hypersensitivity.
- **Sensitive to;** local anesthetic, hyaluronidase.
- **Manifested as;**
  - Skin; urticaria, rash, edema
  - Respiratory; cough, wheeze, stridor, broncho-spasm
  - CVS; arrhythmia, hypotension, cardiac arrest
- **Treatment;**
  - HELP, ABC
  - O<sub>2</sub>
  - Hydrocortisone
  - Adrenaline

## Hypoglycemia

- **Fatal condition**
- **Suspicious with;** hepatic, insulin drugs
- **Manifested as;** sweating, tachycardia, confusion, pallor
- **Hypo or hyperglycemia??**
- **Treatment;**
  - HELP
  - Conscious: oral juice, 25 mg glucose
  - Unconscious: IV glucose
  - Cerebral edema: mannitol + dexta

## Severe local toxicity

- **Rare**
- **Manifested as;**
  - Peri-oral tingling,
  - Arrhythmia, CVS collapse
  - muscle twitches, convulsion
- **Treatment;**
  - HELP
  - AIRWAYS, O<sub>2</sub>
  - Venous line
  - Management of convulsion and arrhythmia

## Needle stick injury

- **Avoidable**
- HIV, HCV, HBV
- **Immediate;**
  - Wash with running water or irrigate the eye
- **Within 1st hour;**
  - Report the team
  - High risk HIV or +ve ... start ttt
  - Store blood from both for analysis
- **3 months follow up**



**THANK YOU**

