

## Letter to the Editor

Clin Exp Ocul Trauma Infect. 2021;3(3):35-38

# Pearls and Pitfalls in Ocular Trauma

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I am going to write about the management of ocular trauma in the form of mentioning some pearls and pitfalls. So let's look at few pearls first.

### Terminology

You have to use the best system that divides eye injuries in the closed and open globe injuries. Then the open group is either a rupture or some type of laceration. If you don't do that you cannot understand each other with your colleagues. (1) (Figure 1)

### Ocular Trauma Score

Another pearl is to use the ocular trauma score which is very easy to come up with you look at a few variables you had them up and

you have a table from which you can predict the prognosis of an injury. (2) (Figure 2)

### Planning

Another pearl is to never assume that you already know everything. If you do that you will not be able to keep up and your results going to be less than optimal. Talking about the actual management now you must have a plan it's not I'm going to deal with the tissue problems one-by-one it is to have a plan where you are at this moment the current status of the eye and where you want to be at the end of the management process and finally how to get from here to there.

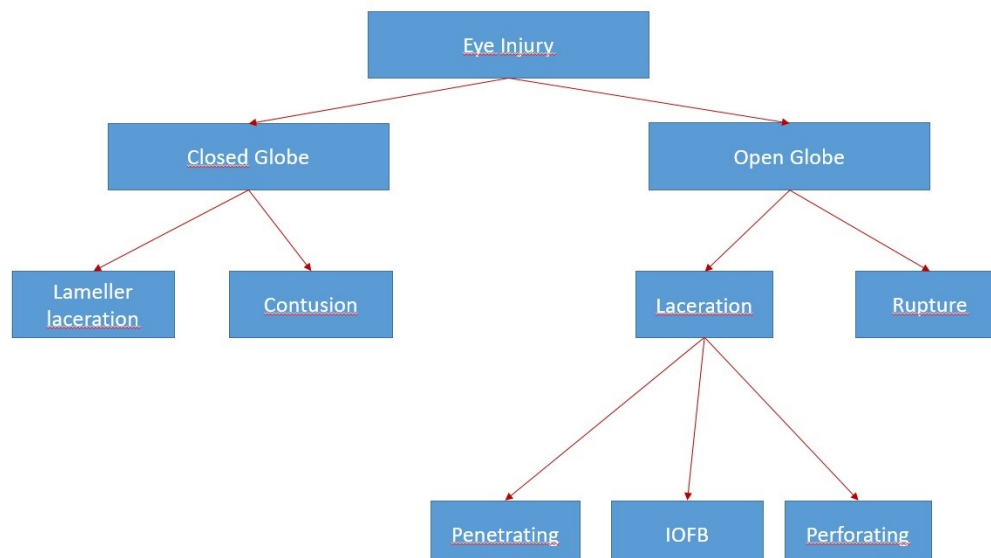


Figure 1: Classification of Ocular Trauma

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## Controlling

Another pearl is to never act without full control over what happens inside the eye. Everything that happens must be happening because you wanted it and nothing should happen that you did not intend to have.

## Do not give up

Another pearl is not to give up on an eye after the injury resulted in the no light perception vision. It's not the death sentence to the eye, we are not judges. We are Physicians who have to do everything we can, to restore anatomy and vision if you look at the historic immigration rates after an injury if the eye had light perception vision it has a 9% chance of being enucleated as opposed to a 94% rate if the eye became NLP.

Variable	Raw Point
<b>Initial Vision</b>	
NLP	60
LP/HM	70
1/200-19/200	80
20/200-20/50	90
≥20/40	100
<b>Rupture</b>	
Rupture	-23
Endophthalmitis	-17
Perforating Injury	-14
Retinal Detachment	-11
Afferent pupillary defect	-10

Figure 2: Ocular Trauma Score

## Early surgery

Such as if you have blood in the anterior chamber and there is blood inhibition into the cornea you have to do a complete reconstruction attempt which in this case involves a temporary keratoplasty with vitrectomy. In this case you should not delay surgery as I already mentioned because obviously you cannot do surgery through cornea like this.

With an eye that had a rupture and 360-

degree retinal tear I am doing the surgery just six hours after the actually injury, Because of the vitreous loss there is a complete wound 360-degree retinal tear. If patients wait within a few days this becomes a closed funnel with very poor prognosis.

## Properly suturing

It is very often that you have to suture the cornea typically this is what you see here after the closure the cornea is closed with sutures even if they are not properly done but it is tremendously, and the reason is the suture is not a hundred percent deep and therefore there is still fluid supplying into the stroma, even though you have sutures and this is just a short video to show how you put in a full thickness suture start vertically with the needle to advance it so that the tip of the needle is able to move while you're advancing the needle this shows you that the tip of the needle and therefore the suture in the future is not inside the cornea it is behind the cornea so it is in the anterior chamber. How suture is tied? So a triple throw first crossing two hands and then a single suture administer a single throw 90 degree angle compared to the first suture this is what we locked the suture with will not be looser and this is not a tight suture either. and then just to be on the safe side this is followed by another single throw again turning the hand 90° and ideally the suture is cut not with not scissors but with a blade. this is the shows you that you see where the cut is made and therefore remaining piece of suture is very short and then immediately after putting in that suture do I have to turn the note inside so it would not be left on the eye surface

## Traumatic Cataract

Another very important issue is traumatic cataract. It is not the same as elective cataract. you have to think about a posterior capsular rupture which often happens roughly half of the eyes with a traumatic cataract. we'll have that and therefore it is advisable to consider using the vitrectomy probe.

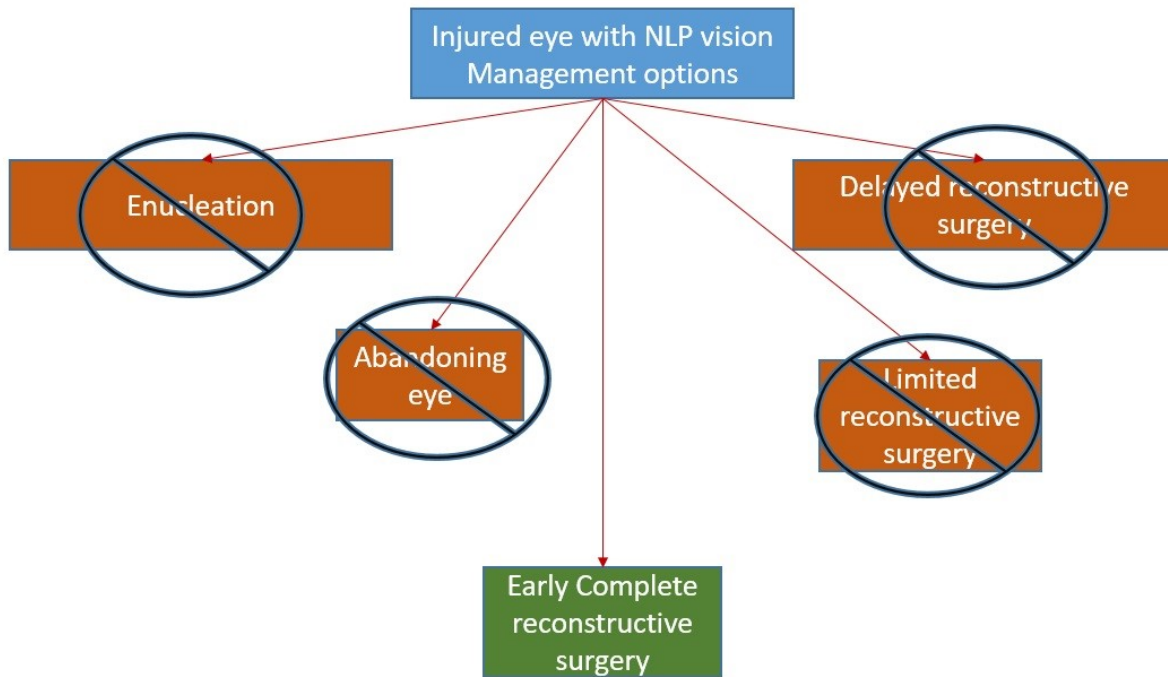


Figure 3: The acceptable option is early complete reconstructive surgery the acceptable option

### Vitreous in anterior chamber

This is a vitrectomy probe but it is malfunctioning so there is no cutting only aspiration and what you see how the iris is moving during the process this is not because of a pressure problem it is because you have vitreous but you cannot see that vitreous unless you put triamcinolone into the eye now you can see if it vitreous prolapse into the body of the lens into the anterior chamber and even through the wound to the exterior so you must always consider what happens when you aspirate anterior vitreous this is what happens if you can see there was a retinal dialysis because not by the injury but by the inappropriate intervention.

### Iris reconstruction

I would like to mention iris reconstruction which is a hugely important part of reconstruction but it should be done as last step. You do not want to constrict the iris before the posterior segment is completed. So the first thing to try is to look at whether this wide pupil is caused by a thin tissue behind the iris that still allows the iris to be moved once that tissue fiber is broken if not then you

have to do some type of iris reconstruction in this case it is a cerclage which is the most difficult part or type of surgery done for the iris typically people use a simpler one which is a couple of normal tightening sutures this variation is little bit nicer because the pupil is pretty much round. The message you want to have a relatively small and not too small so that in case there is still something to be done posteriorly it can still be achieved.

### Vitreous Hemorrhage

Make sure that you are not removing retina therefore you have to go vertically and not horizontally and you do that on the nasal side.

Finally, I just want to mention that the decision is always made by the brain it doesn't come from your hands and therefore you have to prepare yourself to do a complete job.

## **References**

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