

# Is padding necessary after cataract extraction?

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**SUMMARY** The results of a prospective study to assess the value of padding eyes following cataract surgery are reported. A group of eyes dressed with a petroleum jelly mesh, gauze pad, and cartella shield were compared with a group dressed only with a cartella shield. Study of the eyes and lids before and after operation, including the taking of lid margin and fornix swabs for culture, suggested that there was no significant difference in the bacterial presence between the two groups. The eyes dressed with a cartella shield alone appeared less prone to discharge. The relative merits of different types of dressing are discussed.

The application of an eye pad following cataract surgery is a long established routine. A survey of ophthalmologists in the United Kingdom showed that 92% apply a gauze dressing either alone or in combination with other protection, such as a cartella shield or crêpe bandage.<sup>1</sup> This practice is recommended in a number of standard texts.<sup>2,3</sup>

The rationale for a dressing in contact with the lids is ill defined, and the practice follows tradition rather than proved merit. This paper presents the results of a prospective study to assess the worth of padding of an eye following cataract surgery. A group of patients who underwent dressing of the eye by conventional pad and cartella was compared with a similar group to whom only a cartella was applied. The state of the eyelids postoperatively was studied, and pre- and postoperative cultures of the lid margin and conjunctival sac were taken to see whether the groups differed in their postoperative bacteriology.

## Material and methods

Forty-two consecutive patients scheduled to undergo extracapsular cataract extraction with implantation of an intraocular lens were entered into the study. A standard surgical technique was used with a fornix based conjunctival flap and an ab externo incision. The lid margins and inferior fornix were examined before operation and swabs of these sites taken with a cotton bud soaked in sterile saline. In one patient surgery was deferred owing to frank clinical infection. No others were excluded. Preoperative topical anti-

biotics were then administered in the form of gentamicin eye drops 2-hourly to both eyes during the waking hours preceding surgery. Immediately before operation the lids and periorbital skin were cleansed with aqueous chlorhexidine. Subconjunctival gentamicin (20 mg) and betamethasone (2 mg) were given at the end of the operation. A randomised envelope was then opened to instruct either dressing with a sterile petroleum jelly mesh eye pad, and plastic cartella shield or a sterile cartella shield alone. The eye was dressed accordingly.

On the first postoperative day the dressing was removed and the eye examined at the slit-lamp. The lids were examined for the presence of any discharge, and cultures of the lid margin and inferior fornix were repeated (by the same clinician as did all the pre-operative cultures), and swabs were immediately plated on to blood agar. Plates were incubated for 48 hours.

## Results

Of 42 patients in the study group one had operation deferred owing to clinically apparent purulent conjunctivitis; cultures subsequently grew  $\alpha$ -haemolytic streptococci. Of the 41 others 22 were dressed with a petroleum jelly mesh, gauze pad, and plastic cartella, and 19 with a cartella alone.

**Microbiology.** Preoperative cultures grew colonies of *Staphylococcus epidermidis*, *Corynebacterium xerosis*, micrococci, diphtheroids, neisseria, other Gram-negative organisms,  $\alpha$ -haemolytic streptococci and *Staphylococcus aureus*, as shown in Table 1. Postoperatively no pathogenic bacteria were

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Table 1 Incidence of preoperative positive cultures

Organism	Padded group		Unpadded group	
	Lid No. (%)	Conjunctival sac No. (%)	Lid No. (%)	Conjunctival sac No. (%)
<i>Staphylococcus aureus</i>	3 (14)	2 (9)	2 (10)	0 (0)
$\alpha$ -Haemolytic streptococci	1 (4.5)	1 (4.5)	1 (5)	0 (0)
Diphtheroids	2 (9)	2 (9)	1 (5)	0 (0)
<i>Neisseria</i> spp.	2 (9)	0 (0)	3 (16)	2 (10)
Other Gram -ve	1 (4.5)	1 (4.5)	0 (0)	0 (0)
Micrococci	10 (45)	5 (22.5)	10 (53)	7 (37)
<i>Corynebacterium xerosis</i>	19 (86)	14 (64)	14 (74)	11 (58)
<i>Staphylococcus epidermidis</i>	19 (86)	13 (59)	17 (89)	12 (63)

grown from either the lids or fornices of either the padded or unpadded group, with the exception of a single patient who was dressed with a pad and cartella from whose lids *Staphylococcus aureus* was grown postoperatively.

Similarly, a large number of 'commensals' were absent from postoperative cultures. Those remaining are listed in Table 2. The most frequently present organism was *Staphylococcus epidermidis*, but there was no significant difference in its presence between the two groups.

**Condition of the lids.** The condition of the eyelids at the first dressing was examined and the presence of discharge noted. There was some discharge in eight out of 22 padded eyes but in only two out of the 19 unpadded eyes. We concluded that those eyes dressed with a cartella alone were less prone to accumulate discharge.

**Mechanical complications.** One patient in the padded group was found to have a slight wound leak on the first postoperative day. This settled spontaneously after 24 hours. A small peroperative corneal abrasion in one patient in the unpadded group had fully healed by the time of the first dressing. There were no other postoperative complications possibly attributable to the dressing technique.

## Discussion

Most ophthalmologists apply an eye pad following cataract surgery as an established routine, presumably in the belief that it affords some degree of protection to the eye from both bacterial and mechanical insult. The aim of this paper was to see if this is the case by comparing two groups of patients undergoing cataract surgery with and without postoperative padding. Lid and conjunctival cultures have shown that there was little difference between the prevalence of 'commensals' postoperatively in the two groups. All the pathogens were eliminated by the prophylactic antibiotics except for one colony of *Staphylococcus aureus* in one patient in the padded group.

We believe it is naive to assume that a gauze pad prevents access of organisms to the eye. Indeed, the warm, moist atmosphere beneath a gauze pad might be thought to provide an ideal culture medium. A Cartella shield alone is likely to prevent the patient contaminating his eye with his fingers.

Mechanical injury to the eye postoperatively is a relatively uncommon complication. We consider that a plastic Cartella shield alone provides as good protection as does a gauze pad and Cartella. The only wound leak occurred in a patient wearing both a pad

Table 2 Incidence of postoperative positive cultures

Organism	Padded group		Unpadded group	
	Lid No. (%)	Conjunctival sac No. (%)	Lid No. (%)	Conjunctival sac No. (%)
<i>Staphylococcus aureus</i>	1 (4.5)	0 (0)	0 (0)	0 (0)
$\alpha$ -Haemolytic streptococci	0 (0)	0 (0)	0 (0)	0 (0)
Diphtheroids	0 (0)	0 (0)	0 (0)	0 (0)
<i>Neisseria</i> spp.	0 (0)	0 (0)	0 (0)	0 (0)
Other Gram -ve	0 (0)	0 (0)	0 (0)	0 (0)
Micrococci	2 (9)	1 (4.5)	4 (20)	1 (5)
<i>Corynebacterium xerosis</i>	0 (0)	1 (4.5)	2 (10)	0 (0)
<i>Staphylococcus epidermidis</i>	10 (45)	9 (40)	8 (42)	6 (32)

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and Cartella, though its origin was not thought to be traumatic.

The assessment of comfort is notoriously difficult and inaccurate. In an attempt to provide some objective assessment, however, the presence or absence of a discharge on the lids was assessed: it was less in the absence of a dressing in direct contact with the lids.

A further advantage of a simple Cartella dressing is that two patients spontaneously remarked on their ability to see through holes in the shield. This would be of benefit particularly in patients without useful vision in the fellow eye,<sup>4</sup> in agitated patients, and in those undergoing day-case cataract surgery.<sup>5</sup> A transparent Cartella would be ideal (and is now commercially available).

Hartley, describing his own postoperative recovery from cataract surgery, remarked, 'No really efficient protection for the eye after operation appears to have been devised to supersede the Cartella shield.'<sup>6</sup> Our

findings would tend to support this, and encourage dressing of eyes with a Cartella shield alone.

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