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# MAY I BEND DOWN AFTER MY CATARACT OPERATION, DOCTOR?

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## SUMMARY

We reviewed the records of 21 patients with post-traumatic wound dehiscence following cataract surgery to establish the cause of injury and assess the complications and outcome following injury. Wound dehiscence most commonly resulted from patients knocking their eye accidentally with their own hand, and falls were the second most frequent cause. None of these patients suffered injury as a result of bending down. Eyes that had undergone cataract surgery through corneal sections were more prone to wound dehiscence than those operated on via a limbal approach. The visual outcome following repair was good in the majority of cases, but eyes with expulsion of lens implant and/or vitreous loss tended to have a relatively poor outcome.

Although patients undergoing cataract surgery may believe that they should not bend down after their operation, modern microsurgery produces a secure wound which is resistant to the changes in intraocular pressure which may occur with changes in posture. Routine insertion of an intraocular lens implant during cataract surgery has also led to early rehabilitation of vision and it would seem unlikely that bending down would predispose a patient to knock his or her eye against an object. We carried out a retrospective study of patients who injured their eyes following cataract surgery to assess whether any of the patients was bending over at the time of injury and to study the nature of the injury and final outcome.

## SUBJECTS AND METHODS

Twenty-one patients with wound dehiscence following cataract surgery were identified from hospital records during the 7 year period between September 1986 and August 1993. During this time approximately 5600 cataract procedures were carried out.

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Fifty per cent of the patients undergoing cataract surgery during this period were operated on via a limbal section and the remainder through a corneal section.

Medical records were reviewed for details regarding the type of cataract surgery, suture material used, complications during surgery, etc. Particular attention was paid to the nature of the event causing wound dehiscence, and details about the extent of injury, surgery required and outcome were noted.

## RESULTS

Twelve female and 9 male patients were identified. Eleven right eyes and 10 left eyes were affected. The average age was 73 years (range 47–87 years); the average age of the women was 79 years and that of the men 65 years.

Nineteen patients had undergone uncomplicated extracapsular cataract extraction (ECCE) with a posterior chamber intraocular lens implant (IOL). One patient (high myope) had ECCE with no IOL. One patient had ECCE with anterior vitrectomy (following vitreous loss) and anterior chamber IOL. Eighteen eyes had corneal sections and 3 were operated on via a limbal approach. Seventeen eyes had the section closed with between five and eight interrupted 10/0 nylon sutures. Two of the cataract procedures had interrupted 10/0 Mersilene sutures and the remaining 2 had interrupted virgin silk sutures to close the section.

The time interval between cataract surgery and injury ranged from injury occurring on the day of surgery to 48 days following surgery. Nine of the 21 injuries occurred within the first week following cataract surgery (Table I).

Three patients suffered from diabetes mellitus, 3 were on systemic steroids for unrelated conditions and 1 had rheumatoid arthritis.

### *Cause of Injury*

Injuries were self-inflicted in 16 patients by rubbing/

**Table I.** Aetiology of injury

Case no.	Age (years)	Sex	Time interval after surgery	Cause
1	70	M	41 days	Knocked eye with hand while pulling bedsheets
2	66	M	21 days	Knocked eye with own hand
3	70	F	4 days	Knocked eye with own hand
4	82	F	2 days	Knocked eye with own hand while in bed
5	61	M	2 days	Rubbed eye
6	79	M	9 days	Knocked by spouse's hand
7	67	M	7 days	Knocked with own arm in bed
8	70	M	20 days	Knocked by jumping dog's head
9	58	F	4 days	Knocked by washing line prop
10	64	M	48 days	Knocked eye on shelf
11	87	F	1 day	Fell on face getting out of bed
12	89	F	21 days	Rubbed eye
13	87	F	2 days	Spouse knocked eye while putting in eyedrops
14	47	M	15 days	Assault: punched
15	83	F	2 days	Knocked with towel
16	64	M	33 days	Fall
17	76	F	5 days	Fall
18	87	F	30 days	Knocked by corner of car door
19	77	F	33 days	Knocked eye with own hand
20	81	F	24 days	Fell while walking dog
21	73	F	36 days	Assault: punched

poking themselves in the eye (8 patients), falling down (4), or being struck with a washing line prop (1), car door (1), shelf (1) or towel (1). Two were struck by their spouse's hand, one by their dog jumping and two were assaulted.

All patients except one required surgical repair of injury. Nineteen patients had one or more sutures broken. Eighteen patients had iris prolapse. Most patients had their lens implant *in situ*; however, 2 implants were completely expelled and 4 were partially extruded (Table II).

Six patients were noted to have vitreous loss at the time of repair and underwent anterior vitrectomy. All but 3 patients with iris prolapse had their iris repositioned. One of the partly extruding implants had the superior haptic in the section and was repositioned, another implant was replaced, and the other 2 were

removed. Visual results were good except in 2 patients with more severe injury. In one of these patients intraocular haemorrhage and a retinal detachment were noted at the time of primary repair and this patient subsequently had a vitrectomy with successful reattachment of retina (but final vision of perception of light). The second patient suffered an expulsive haemorrhage and did not have a favourable outcome following repair (no perception of light). Two patients with pre-existing age-related maculopathy achieved a visual acuity of counting fingers and 6/18 respectively, whereas the rest achieved 6/12 or more. Two eyes developed a permanent rise in intraocular pressure which was treated with long-term topical medication. Follow-up ranged from 1 to 46 months with 16 of the patients being followed up for 9 months or more (Table III).

**Table II.** Findings at examination

Case no.	Wound	Sutures	Iris	Vitreous	IOL	Others
1	Dehisced	Broken	<i>In situ</i>		<i>In situ</i>	
2	Dehisced	Intact	Prolapse		<i>In situ</i>	
3	Dehisced	Broken	Prolapse		<i>In situ</i>	
4	Dehisced	Broken	<i>In situ</i>		<i>In situ</i>	
5	Dehisced	Broken	Prolapse		<i>In situ</i>	
6	Dehisced	Broken	Prolapse		<i>In situ</i>	
7	Dehisced	Broken	Prolapse		<i>In situ</i>	
8	Dehisced	Broken	<i>In situ</i>		<i>In situ</i>	
9	Dehisced	Intact	Prolapse		<i>In situ</i>	
10	Dehisced	Broken	Prolapse		Partly extruded	
11	Dehisced	Broken	Prolapse		Loop extruded	
12	Dehisced	Broken	Prolapse		Partly extruded	
13	Dehisced	Broken	Prolapse		<i>In situ</i>	
14	Dehisced	Broken	Prolapse	Loss	<i>In situ</i>	
15	Dehisced	Broken	Prolapse		<i>In situ</i>	
16	Dehisced	Broken	Prolapse	Loss	<i>In situ</i>	
17	Dehisced	Broken	Prolapse		<i>In situ</i>	
18	Dehisced	Broken	Prolapse	Loss	Expulsed	
19	Dehisced	Broken	Prolapse	Loss	Partly extruded	
20	Dehisced	Broken	Prolapse	Loss	Expulsed	Intraocular haemorrhage and RD
21	Dehisced	Broken	Prolapse	Loss	No IOL	Expulsive haemorrhage

RD, retinal detachment.

**Table III.** Final outcome

Case no.	Early complications	Late complications	Visual acuity	Follow-up (months)
1			6/5	22
2	Fibrinous uveitis		6/4	4
3			6/6	41
4			6/6	13
5	Fibrinous uveitis; vitreous wick		6/6	30
6	Fibrinous uveitis		6/6	24
7	Fibrinous uveitis		6/6	13
8	Peripheral choroidal haemorrhage		6/5	30
9	Fibrinous uveitis		6/6	9
10	Transient raised IOP		6/6	28
11			6/6	24
12	Fibrinous uveitis		CF (ARM)	4
13			6/18 (ARM)	24
14	Fibrinous uveitis		6/6	4
15	Fibrinous uveitis; raised IOP		6/9	9
16			6/9	15
17	Uveitis with iris bombe and raised IOP		6/12	12
18	Fibrinous uveitis; hyphaema; choroidals; raised IOP	Raised IOP	6/12	15
19			6/12	46
20	Fibrinous uveitis; raised IOP	Raised IOP	PL	2
21	Hyphaema; corneal blood-staining	Phthisis	NPL	1

ARM, age-related maculopathy; IOP, intraocular pressure; PL, perception of light; NPL, no perception of light.

### DISCUSSION

Standard extracapsular cataract surgery leaves the eye with a wound that is vulnerable to dehiscence for years should it be exposed to enough trauma.<sup>1-6</sup> The wound is weakest during the first few weeks following cataract surgery<sup>7</sup> and minor trauma may be enough to dehisce an extracapsular cataract wound. Our study shows that most wound dehisces occurred in the first few weeks following cataract surgery. However, post-operative cataract wounds have been reported to rupture even up to 17 years following surgery.<sup>4</sup> Many patients who have had cataract surgery believe that they should not bend down following their operation. They have generally heard this from their friends, relatives and associates, or nurses.

Our study shows that none of the eye injuries occurred while the patient was bending down. Previous studies<sup>3,4</sup> regarding trauma to patients after cataract surgery quote falls as being the commonest cause of injury.

The population undergoing cataract surgery is an increasingly elderly one with slower mental and physical faculties, and this would help to explain the large number of self-inflicted injuries. It would appear that a corneal section poses a risk factor, given that 18 of 21 patients with wound dehiscence had corneal sections whereas only 50% undergoing surgery during the period studied had a corneal section. This is probably due to the faster healing and more rapid gain in strength of a peripheral corneal wound compared with a more central avascular wound.<sup>7</sup> Wound healing may have been modified by systemic factors (steroids, diabetes, etc.) in 7 of our patients. We have not studied patients undergoing small-incision phacoemulsification in this study

but would anticipate there being a reduction in frequency of wound dehiscence. Eyes with injury limited to wound dehiscence and iris prolapse had a better visual outcome, whereas those with IOL extrusion and/or vitreous loss did not fare as well. The two eyes with PL and NPL as well as the eyes needing continuous treatment for high intraocular pressure belong to the latter group. We feel that patients should be instructed to remain constantly aware that their eye has undergone surgery and is vulnerable to direct trauma. Clearly patients should be advised to wear protective eyewear in appropriate circumstances as it is likely that all these injuries would have been prevented by protective glasses. We can provide no evidence that it is dangerous to bend down following cataract surgery.

Key words: Cataract extraction, Intraocular lens, Vitreous loss, Wound dehiscence.

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