Contact lens solutions

At the most recent lunchtime debate, *Optician* brought together contact lens experts to discuss the important issues of solution compatibility, compliance and safety

Alison Ewbank: Contact lens care and lens care products have been very much in the news recently, and, broadly speaking, coverage has fallen into three categories: solution compatibility, compliance – or non-compliance – and product recalls. This is also a very active area for product development. In relation to solution compatibility, the clinical relevance of corneal staining has been a topic of interest, and has led to renewed interest in peroxide disinfection, as well as calls for lens care products to be specified on the prescription. We have seen new reports about levels of compliance and we have also had a number of high-profile product recalls, which has led to the re-examination of solution safety and a return to rub and rinse procedures. We will start by asking what your first-choice option is for soft lens disinfection in a new patient, whether that has changed recently and, if so, why?

Brian Tompkins: I am still using multipurpose solutions (MPS), although I am following the debate about hydrogen peroxide closely, and do have it in the practice. However, peroxide was never my first choice in the last 10 years because of compliance problems and peroxide getting in the eye. So my first choice has been MPS. It has changed just recently, firstly because of a new product coming out, and secondly, because one MPS is now going to be more difficult to get. Finding out how efficiently I can buy solutions is one of the jobs that one day I will either do myself or get somebody to do for me. I want to investigate buying direct from manufacturers, from wholesalers, or from solution suppliers, to discover which is more profitable. I am absolutely certain I do not buy at the best prices, or in the right quantities, because it is one of those products that you just try and get when and where you can. Sometimes it is easier to bundle it in with the lenses.

Ewbank: So price is a factor in your choice, or is it principally safety and efficacy?

Tompkins: Safety and efficacy. I think I probably put trust in the manufacturers most of the time, and then I will listen to learned colleagues. However, those of us that are in practice to make a profit must look at price. I am not very good at doing that. Efficient solution returns are on my wish list.

Ewbank: Do you tailor your solution recommendation to the lens type?

Tompkins: Where I can. That is now in the news because you can look on the web and check out the best ones, but then the two systems [for comparing compatibility] – the Australian [IER Matrix] and the Andrasko [Staining Grid] – seem to vary slightly.

Caroline Christie: I have been talking about contact lens solutions for industry independently for the last 20 years, and what goes around seems to come back round. If I was in practice now, I probably would be doing more one-step hydrogen peroxide, just because whichever [staining] grid you look at, it comes out best every time, irrespective of material. However, one-step peroxide does not work for everybody, because you have no continuous disinfection. At the university, we recommend [Opti-Free RepleniSH], just because we are going to get a conflicting opinion if we look at two of the other products on the market, because they are back to rub and rinse. Not because we are not advocating rub and rinse, but because we would have to give out different sets of instructions to different patients when there are three of us running a clinic with 28 students in it at any one time. So it is keeping things simple, and I think some practitioners want to think down those simple routes as well.

But obviously when a product is proven and tested, and has good results, we will tend to move with it. So we're using a bit more one-step peroxide, because there are a couple of them on the market with added surfactants within them. If you decide to fit with just maybe one or two materials, then you can make a decision and stay with it. If you are trying to do lots of different things, then you want to minimise the problems that come back in your chair.

THE PANELLISTS

- **Paul Adler** – optometrist, Hertfordshire
- **Kathryn Anthony** – optometrist, Bath
- **Shelly Bansal** – contact lens optician, London
- **Caroline Christie** – optometrist based at City University
- **Alison Ewbank** – special projects editor, *Optician*
- **Anna Sulley** – optometrist, Surrey
- **Brian Tompkins** – optometrist, Northampton
- **Jonathan Walker** – optometrist, West Midlands

Jonathan Walker: I think the solution industry needs to have the back of their hands slapped, because there is such a variable price with contact lens solutions versus contact lenses. When you determine a price for contact lenses, it is pretty straightforward, but the solution industry is bizarre. Solution prices can change depending on where and who you buy it from, and it is a problem.

The staining issue is a little bit like the Acuvue [edge defect] problem, which happened 10 or 15 years ago.

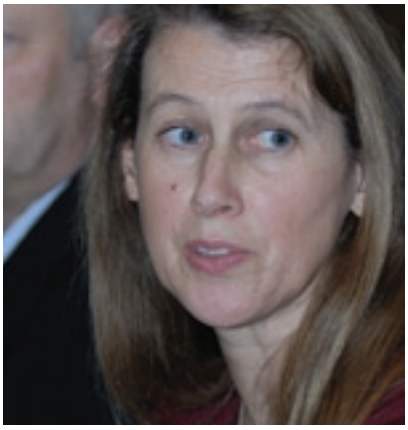
All the edges were quite poor, we all discovered these poor edges, and it was statistically significant. The staining issue is statistically significant, but is it clinically relevant? We have seen staining for years in rigid gas-permeable (RGP) patients, and personally I have not seen many infections. Another question is how many people actually use fluorescein? Only about half of practitioners stain with fluorescein.

Another issue with staining is that it happens first thing in the morning. I call it Saturday morning phenomenon, because patients often put their lenses in at 8.30am and arrive in my consulting room within two hours. I see them with solution actually in their eye but if I see them at 5pm it is gone. I think people are now looking for staining, so it is becoming statistically significant, but I am very uncertain about the practical significance of it.

What is my first choice of solution? I am not a peroxide person. I use peroxide because there are the two steps and there is a difference between disinfecting and sterilisation. Nothing is better than peroxide overnight, it kills the lot. But MPS is very convenient, which patients enjoy. We have been telling patients to rub for a long time, to ignore the [no rub] packaging. The fact that some companies are now promoting rub is great.

Shelly Bansal: I look at solutions in a more practical way. I aim for convenience for my patients and, because of this, MPS have been our first choice. It is great to talk about the efficacy of solutions, but that assumes that our patients are 100 per cent compliant. With the original two-step peroxide solutions there was a lot of non-compliance. People want something simple and efficient that works and, for me, the natural choice was MPS.

There has been a lot of controversy about MPS, going back 14 years ago when we first started looking at the reactions of the tarsal [conjunctiva]. We talk about staining, and practitioners not using fluorescein, but a lot of practitioners do not evert eyelids. So they do not see what is happening as a consequence of what they are doing. There have been problems for a long time, we are just looking for it more now.



Alison Ewbank

It is interesting what Jonathan said about the effects of staining and the implications. We know it happens, and it goes away again after two or three hours, but we still have not found out what the consequence of this is. It is great to talk about it, but you have to tell patients whether or not it is dangerous.

Walker: What about your view on the pricing of solutions?

Bansal: We actually buy direct from suppliers. We have standing orders of solutions coming in every month, we have fixed prices, and we have guaranteed business. We know what we are going to buy, it is done automatically, and we have built up relationships. So perhaps we do not suffer as much as others.

Ewbank: Does anyone else find that the pricing structure for solutions is a consideration?

Kathryn Anthony: No. It is a concern in the sense that, yes, it is a nightmare trying to keep track of solutions, what your profitability is, how much you use. I have quite a lot of patients who do not wear daily disposables, but do wear silicone hydrogels on a part-time basis. In that case, I do not like one-step peroxide. MPS have very much taken over, to the extent that it is hard to get hold of two-step peroxide, or it is certainly hard for the patient to get hold of it.

I have always wanted to know why we cannot have two-step peroxide that has a colour indicator in the neutralising solution, because there has always been an issue with the two-step peroxide, that the patient may put the peroxide straight into their eye when they cannot remember if they have neutralised or not.

I do have a huge issue with staining. We are told that staining is not good with soft lenses, so how can we suddenly say it is okay if it is a solution stain as opposed to a dryness stain? RGP lenses have always been slightly different with regard to staining, because they do not bind deposits; they do not hold bacteria in the same way that soft lenses do, which potentially leaves you more open to the risk of infection. We have always accepted more staining with gas permeables, because the risks are less from an infection point of view.

Jonathan Walker

Bansal: The point you are making is, because we have recently started looking for this early morning staining, that does not mean to say it has not been there for the past 10 or 15 years, and we have still been fitting soft lenses in that time period.

Ewbank: Obviously there is more choice of lenses with the advent of silicone hydrogels, but there is also more diversity in the ingredients in lens care solutions as well. Are there more things to be incompatible, would you say?

Paul Adler: The fact that we do get staining and we can recognise it more in silicone hydrogel patients is to our advantage. It is a fantastic opportunity to reinforce the reasons why patients should come back regularly and why we care about solutions. We just use it as a way of discussing the advantages of the new materials, and the importance of staying with the prescribed solution. We insist on all our practitioners stating the solutions that have been prescribed on the specification, and also write 'no substitutions' on the statement that we give.

Ewbank: So this is also an opportunity to point out there are differences between solutions, and they should not just grab the nearest one off the shelf.

Adler: Solutions have been a big issue for us. We used to bundle them [together with lenses] and we had problems with patients who either did not have enough and thought we were ▶

Brian Tompkins

Caroline Christie

ripping them off, or decided that they had too much and we were ripping them off. Instead, for those on direct debits, we offer internet-type prices if they buy certain quantities. So we offer them a really keen price should they decide to buy six months or more of solutions from us. That works better, as they feel they have control.

You would tell them, 'You must use this particular product', and yet the next time you ask them about solutions they would say, 'I am using Superdrug's own or Tesco's own'. They shop around for the cheapest, and practitioners really don't know what is in some of these. We decided to cut our margins and explain to patients that, should they choose to buy their care package from us in the way that we would like to provide it, then we can supply solutions as cheap as Costco or the internet. And they usually respond.

Ewbank: How long have you been writing the recommended solution on the specification?

Adler: Since the rules became mandatory that we should issue a specification at the end of fitting. It is all computerised. When we want a specification we just print it out. On the rub-rinse issue, we have been doing something that some of you might think is a bit 'iffy'. We have yellow stickers that we put on all of the manufacturers' solutions, which state that we advise a rub-rinse step, no matter what is on the packaging.

Tompkins: Good plan.

Adler: We ordered them off the internet and they are bright yellow, with our letterhead logo, and they say, 'Despite what you may read on this packaging, we advise that you should use a rub-rinse step, because we feel it is safer.' We make it quite clear that this is advice from us. We also put it over the seal, where they cannot help but see it.

Anthony: We all know patients will do at least 25 per cent less than whatever you tell them, even the good ones. Even [patients who are] doctors and the pharmacists will reuse their solutions. You know they are going to do less, so the less you tell them to do, the less they will do.

Adler: Do you not think that the solution manufacturers have let us down though?

Anthony: I think they have on that score.

Adler: I also do not think that, as practitioners, we can stand up and be truly honest with ourselves and say we have done the best for our patients, unless we say we do not approve of that and we do not want you to do it.

Ewbank: Anna, have you changed your first-choice option?

Anna Sulley: No. I have always recommended polyquad solutions. It is not necessarily that MPS can be a problem, it is that certain MPS can be a problem. I find that polyquad has always been good for me, and the majority of my patients. Some people do not like it, and then I tend to either go for a one-step peroxide or some of the new chlorite ion ones. If you do agree with the [Andrasko] Staining Grid, theoretically you are going to be fairly safe if you use either one-step peroxide or polyquad, whichever silicone hydrogel you are fitting.

There was an article in *Optician* recently about one of the new chlorite ion solutions and that looks to be fairly good with several hydrogels. If you look at the polyhexanide ones it is just very dubious, and although IER studies come up with slightly different results because these were over three months so it was not short-term staining.

Ewbank: That was the Institute for Eye Research Matrix?

Sulley: That was the lens matrix from Sydney. Then there was an article in *Contact Lens Spectrum* as well, saying that statistically there were some differences, but not as many differences as if you look at the [Andrasko] Staining Grid. Even if staining is only at two to four hours and it goes away, if you can use a solution that is still safe, efficacious and comfortable and you do not get the staining, whether statistically significant or not, clinically it is different. Surely it is better for somebody not to have that staining than to have it. So we always recommend a polyquad solution. I write it on my specifications. When patients come in I check what they are using – often they have absolutely no idea – and I explain why they should use a branded solution. I also always advise patients to rub and rinse although I know the majority of them probably ignore me.

Ewbank: Do you package together?

Sulley: No. I am in a slightly different situation in that I work for somebody. Pricing is not an issue for me, although I know it is for my employer. We recently found it is significantly cheaper to buy direct from the supplier.

Adler: That is only the case if you use enough volume though.

Sulley: You do not need that much, but, yes, you do need to have a fair amount. If it is your main solution, even for a small practice, it is still possible. Going back to the discussion that there is no evidence there is a problem with staining – there was a recent paper that said there was a high incidence of people with staining having inflammation. Not microbial keratitis, but just sore, red eyes.

Tompkins: Everybody is looking at staining and everybody is relating to the grids.

Christie: Is everyone doing that? When you go to lectures around the country, and in Europe, and ask people if they have seen [the staining grids], whether they have visited the websites, you get very few hands up.

Tompkins: Not only that, but I think no more than 10 or 15 per cent use a filter ▶

Shelly Bansal

anyway, which would spot half the staining we are talking about.

Bansal: There is a whole issue about education, what practitioners need to do, and what constitutes routine aftercare. There is so much missing, and a lot of it is down to the time constraints in certain environments. Some practitioners work in a McDonald's-type environment where it is about how many patients you see, and where aftercare does not carry the same weight as a new fit. In our practice it does, even more so, because aftercare leads to continuity of patients.

Sulley: How many times have you either put fluorescein in a patient's eye or gone to evert their lid, and then had them say they have never had that done? They jump a mile and say, what is that?

Adler: I think that we are making a false assumption that the system of continuing education in this country will force people to do CET. Practitioners tick the boxes and answer the questions, but they do not think about what they have read. In my practice, there are three practitioners and I am ashamed to say that when I recently checked what they were doing on solutions, none of them really knew about the Andrasko grid or about staining. None of them really knew why I had chosen particular products as my first choice. That says a lot about the way I train them I suspect. But they should be up to date if they think that they are competent at looking at contact lens patients.

Ewbank: Does the manufacturer have a role here?

Adler: Some manufacturers have pushed quite hard, and there have been adverts recently from other manufacturers with 'traffic light' systems. You cannot help but have noticed if you are awake when you read the journals, and I am sorry to say that some people do not have enough interest or time, or they just do not think that it applies to them.

Sulley: The majority of practitioners, if they see a professional advertisement, will think, 'Well they would say that'. Unless they are going to take the time to read all the individual papers to work out in their own mind what it is they think is appropriate, they are not going to know, and the majority of the people do not have the time.

Bansal: How much of that is related to the fact that every time a manufacturer makes any claim regarding any of their products there is a counter-claim on the very next page? There is mass confusion out there, and who do you believe? No-one.

Walker: There is a bit of mischief-making by some of the manufacturers as well, because there are certain products in the Andrasko grid that are not available in the UK. There is a lot of confusion over one particular product, and I think some of the companies tend to enjoy that confusion.

Christie: And the fact that three products are meant to be identical, but do not actually show the same figures.

Walker: The [Andrasko] grid is very misleading. The red [colour-coding] is very confusing and, as I say, one of the biggest products that we sell over here in the UK is not even on it.

Christie: My feeling is that as more products are tested, rather than making the matrix larger they should take off the products that are no longer available.

Ewbank: So basically we think that the staining grid is not the be all and end all, but you have to look at it and you have to bear it in mind in your practice?

Sulley: It is certainly a start to think about it, but then you need to start thinking yourself and consider the evidence, efficacy and comfort.

Ewbank: Is everybody specifying the solution on the patient's prescription?

Bansal: We have always done it as standard. When any patient is dispensed with lenses, it is put on the computer record, and it just prints off automatically. Nick Rumney sent us a copy of his contact lens specification, and it actually goes through substituting of lens product and solutions as well. It also specifies how we want them to wear their lenses, how many pairs per day, *etc*.

Adler: It just makes sense that you protect yourself by stating on the prescription, 'Advised not to wear more than eight hours a day', or 'Only wear three times a week', or whatever it is that you have advised.

Ewbank: If patients do switch solutions, where are they getting them? Is it usually pharmacies?

Tompkins: Wherever they are shopping.

Ewbank: The internet?

Christie: With the internet you have got to pay for the stuff to be delivered, which is not ideal, whereas if you are in the supermarket pushing your trolley round, you can just throw them in.

Adler: Pharmacies are also a problem. Often patients run out and need a solution which is not readily available – and they cannot get to us – so they go to a pharmacist and say, 'This is what I am using' and the pharmacist will recommend one and say it is the same. Of course, they are not the same.

Sulley: Patients possibly have more choice in selecting their own solutions than they do lens brand. Lens brand is selected by practitioners 99 per cent of the time but sometimes patients say, 'I have seen this on the TV, I want to wear it.' With solutions, they could theoretically go off and choose whatever they want.

Christie: In patients' minds the lens is actually fitted to them, and chosen for their vision and for their comfort, and the solution is just something that disinfects and kills. From their point of view, a product should not be on the market if it is not safe.

Bansal: We have had an edge for a long time because we previously posted everything to our patients, even the solutions. Recently, however, we have changed so that lenses still go direct to patients, and when they come in for their six-monthly aftercare they get six ▶

months' supply of solutions.

Anthony: We got a lot of feedback that patients did not like that, because they either needed more solution or they did not wear their lenses for a while and then ended up with too much. We found that trying to insist they had their six months of solutions and six months of lenses just led us into a minefield of them feeling they were being controlled.

Tompkins: To me, if a patient says, 'I have got loads of solution left', I know they are not rubbing and rinsing and doing the job.

Ewbank: Are you getting them to demonstrate their routine in the practice?

Sulley: I do not get them to demonstrate their routine, but I say, 'Would you like to take your lenses out?' I wait to see what they do – whether they just spit on their fingers or whether they ask to wash their hands. I look first and may then take it further. If they go and wash their hands and get out their lovely clean, shiny case, then they are vaguely compliant.

Adler: One way we reinforce hand-washing in our practice is that at every sink we are using NHS patient hand-washing materials. They are not very easily available, but you can get them. We have also done a search on Google and printed off lots of different pictures of how to wash hands, and bugs on lenses, and we have changed them on a monthly basis around all the sinks. We have to demonstrate to patients that we take hygiene seriously. We have a policy document that states the first thing the practitioner does is clean all the hard surfaces and head rests with alcohol wipes. For every single patient contact they should wash their hands before and afterwards, and we make sure that patients know that is what we expect of them.

Ewbank: Is there a role for the professional bodies to issue guidance on hand-washing?

Adler: It is the government; it is Standards for Better Health. There is no reason for having more input from the College. It is there in black and white already. If you look at the template that the AOP has done, if you are doing clinical governance, that is on the list.

Anna Sulley

Anthony: It is hugely important to get the message across and that you wash your hands, but you also have to accept that this is the real world. How many people would always wash their hands before they took a contact lens out? The fact is they do not. You have to be realistic.

Christie: If we go on that much about safety and hygiene, there is a concern that they will think the potential for infection and problems is higher. They will then think they should just stay with their glasses.

Adler: Do you think that alcohol rubs are sufficient before you put your lenses in? Do you not transfer some of the perfumes within those alcohol rubs to the lens before they go into the eye? We have alcohol rubs on the reception desk and on the dispensing desk. The staff complained about one alcohol rub we used, because it tasted horrible. You would be surprised how often people touch their mouth, or rub their face, or lick their hands.

Walker: Why can a contact lens solution company not make the actual soap? Relate one to the other – it is all part of the regime.

Adler: You could supply a three-month pack with a small alcohol gel. That would certainly help to reinforce hand-washing, and it would give manufacturers value-added product.

Ewbank: Moving on from hand-washing, I was interested to read in one of *Optician's* Essential Contact Lens Practice articles, that case compliance is the number one area for poor care habits.

Sulley: I tell people they should never use tap water [to wash the storage case], they should rinse, and they should air dry. But probably most do not follow this because they think they are going to run out of solution. Also, if they take their contact lens to work with them – which a lot of people do – they will throw the old solution out, put a new solution in, and so probably never spend time air drying the case.

Tompkins: I was going to make the same point. A lot of people will go with their safety valve of, if my lens is sore I will take it out and it has got fresh solution in, and therefore it must be okay. Is that better than having maybe a bottle of solution at work – which might be older than three months – or is it better to have fresh solution in the case?

Bansal: Is that not down to our management again? There is nothing simpler than saying, 'Here is a pair of lenses that you keep in your briefcase, in your handbag, so whenever you have a problem, plan for the unexpected.' With regard to changing lenses and cases, we tell patients on two-weekly replacement lenses to put a reminder in their phone, which tells them to change their lenses on the first of the month and the 15th, and change their case on the first. If they put it in as a standard reminder, then it comes up every month automatically. They do not all do it, but it helps.

Christie: Small bottles of solution are an issue. Very few manufacturers do travel size. Everybody was absolutely hyper about what you could take on an aircraft, yet the industry did not really respond to that, and it should have.

Adler: Is the technology available to have cases that change colour after four weeks?

Anthony: I am sure manufacturers could put a lot of money into that, but then how much effect is it going to have? Everything has got to be balanced against cost and effect. It is almost pointless saying air dry, because it is never going to happen. It is almost worse telling them something you know they are not going to be able to do.

Christie: Peroxide cases are a major issue. They all leak because they all have to have valves in them. We still have issues with peroxide, and one of them is what someone does if they do need to take the lens out for a short period of time. So peroxide has won some battles, but there are areas in

everyday life where it falls short.

Anthony: We must also consider the issue of giving patients too much information. What message do they take home? I often focus on 'no tap water', that is one thing that I think is very important. Patients will not assimilate all the information you throw at them, so you have to focus on what you think are the main things for them.

Adler: Occasionally I have resorted to telling the patient what I am writing in my notes. If I have someone who is really difficult, I say to the patient, 'Right, I have written down that you must use this solution, rub and rinse every day, and it is going in my notes lest you misbehave and get a problem.'

Tompkins: My system is now paperless, and patients can see the notes I am making. They can see as I write, 'This person is really rubbish at looking after their lenses, and I have told them countless times that they must rub and rinse, but they take no notice, so any infection is their fault, not mine, thank you.' I tell them I am putting this in their record, because I have to watch the situation.

Anthony: I say, 'Shall we go through the whole hygiene issue or am I wasting my breath?' It is a question of how you get their attention and lecturing people often does not work.

Adler: Recently there were the top 50 tips for bad contact lens wearing in one of the journals. We replicated it and put it on the notice board in the waiting room. It gives patients an opportunity to see what other people do that we disapprove of. A lot of people comment on it.

Bansal: What I find works well with a non-compliant patient is actually just photographing their lenses. As soon the picture comes up, they say 'Oh no'. It is a proactive way of saying, 'This is what you are wearing, this is what you are doing, and this is the likelihood of problems.'

Sulley: It is also about patients believing you can see that they are not doing something. You can ask them all the questions – 'How long do you wear your lenses?' or 'What time do you put them in?' – but the best time to ask those questions is when you are actually peering down the slit lamp. You just need to say a few things like 'So how do you clean your lenses?' and

Kathryn Anthony

then they will say 'Well, actually….' and then the truth comes out.

Tompkins: That is where slit-lamp photography comes in. It is the best education, because you show the deposits on the lens, or the greasiness of their tears, or the make-up that is layered on. After showing them the dirty lens I often ask, 'Do you want this back in your eye, or shall I just bin this one and give you a clean one, because I would not want that in my eye?'

Adler: But we need to have the time with the patients, to put these points across. Maybe not every practitioner is allowed a sensible amount of time to be able to do that.

Ewbank: Does it have to be the practitioner or could you use support staff, as you do for teaching [insertion and removal]?

Sulley: An 'ocular hygienist'? Yes.

Bansal: It goes back to the economics of day-to-day practice. You can't employ a semi-professional in a hygienist's role, pay them £20 to £25K a year, and not charge the patient somewhere along the line.

Anthony: A dental hygienist does more than giving you a few instructions about how to look after your teeth. I can't see many people wanting to pay money for that from an ocular hygienist.

Tompkins: I still think that the instruction must come from us. In the consulting room we should tell our patients exactly what they should be doing, and our word is law. Shelly and I both run six-monthly contact lens appointments, which means actually we have an hour to do everything. And we are paid properly for it, because we are

Paul Adler

both using fee-based pricing. It takes minutes to refract, minutes to look on the slit lamp, so a lot of our time is spent on patient education. That is not just on compliance, it is on all the other things as well, but nevertheless they are paying for our time, and that is what we are giving them.

Bansal: The fee structure has made me do that even more, because I am aware that they are paying for our time.

Walker: One thing we are all assuming is that a more compliant patient is less vulnerable to infection. Is that the case? Some are going out thinking, 'I am going to do what the optometrist says', and then they still get an infection. Surely, far and away the most important question is whether they sleep in their lenses, and a lot do. That actually puts them at risk. It is far, far more important than any solution system and any way of cleaning. The more nights they sleep in their lenses, the greater the risk.

Tompkins: The compliance issue is the same with continuous or extended wear as it is with solutions. We try to tell them the best we can, to do the best job.

Adler: Should we put leaflets in with any solutions that we give the patients? I noticed at the pharmacy recently that they put a leaflet in the bags. One said, 'Come and talk to us about your medicines.' It is an opportunity to communicate with your patients every time they come in and purchase something. Practitioners could rotate the message and give them something on a three-year or four-year cycle, every month putting something different in the bag.

Anthony: If you are going back to things that register with patients, one

interesting thing was the product recall. Then, for the first time, suddenly people wake up – 'Oh my goodness, something was withdrawn, it had to be serious.'

Ewbank: So what was awareness like? Did you have people coming in mentioning it?

Sulley: Very low. We do not routinely use those products, but there were a few people who did, and a few people who came in. Then a few months down the line I saw people who were still using the solution.

Ewbank: How did you manage the recalls within your practice? Could you isolate those who were using those products and contact them?

Walker: We identified them on the computer, told them what was happening, and they came and exchanged their solutions. Both companies involved were good at exchanging their solutions. It was fairly seamless.

Ewbank: Did anybody let all their patients know anyway? In case they had switched to one of those solutions?

Tompkins: An administrative nightmare. I did not do it, but I did not need to.

Walker: I sent a letter to my patients who were using the products and said, 'There are 35 million soft lens wearers in the US and the Food and Drug Administration has found 26 patients have come down with keratitis, and 22 were using this particular product you were using. This is less than one in a million, but we have a legal responsibility to advise you the product has now been withdrawn.' Many patients came back and said, '35 million and they only found 26?'

Adler: It was a great opportunity for us to educate the patient on how important hygiene is.

Christie: Yes, because certainly with one of those products it was a compliance-based issue.

Ewbank: I admire your ability to think positively about these events.

Christie: If we do not think positively – if we don't put across that positive message – we don't just kill that one product, we kill the contact lens industry. People will say, 'Actually this is not that safe, frames are pretty cool these days so I wouldn't mind wearing them, and refractive surgery is looking interesting.' Every time we overreact to a horror story, we are killing the next potential contact lens patient, or losing people whose comfort is not as good as it should be.

Ewbank: Surely there are lessons we can learn from these events. One of them was the 'topping up' issue that came out. You cannot say [infections] are so rare we can afford to ignore them.

Walker: I think it was 26 cases that came down with keratitis, and 22 were using that particular product, which made it a risk factor, out of 35 million. There are far greater risks on getting on the Tube. It needs to be put into perspective.

Sulley: What it does highlight is how safe contact lens wear is. The risk of losing two lines of visual acuity is much lower than it is with refractive surgery. Contact lenses are still a much safer form of vision correction than refractive surgery, and are convenient and comfortable. Sadly, you know that the poor person who does get [keratitis] will be the one who was compliant and who did everything they were told.

Ewbank: Is our best hope to look at antibacterial coatings?

Walker: I think antibacterial coatings have a good future. There are two companies who are pretty close to launching antibacterial coatings or going into clinical trials. Patients want to wear their lenses for longer and longer. Most patients want to catnap, and a few want to sleep overnight in them. That is what patients want and why laser treatment is so successful.

Ewbank: Do you think we are entering a phase where we are going to be looking more at lenses and less at care products and procedures?

Tompkins: I hope so.

Adler: A self-disinfecting lens would make the care product redundant, if it could be made as a daily disposable.

Ewbank: Is it the case that we are learning more and more about lens care products all the time, and maybe as a result of things like the product recalls, we have learned about rub and rinse, and about peroxide?

Walker: 'No rub' is the work of the devil. It has created so many problems. The other thing is – dare I criticise the solution manufacturers? – they tend to be prone to do what the American market does. Americans enjoy having their no rub, because they like shortcuts.

In the UK, I do not think there was any demand for it; it was forced on us by the manufacturers.

Christie: They undermined, not just practitioners, but even people who were speaking about care products. We did not have a huge amount of evidence when it all started to go wrong. Then we got the evidence that we should have been rubbing and rinsing. Well, anecdotally as clinicians we knew that, but we did not have the evidence as practitioners to support it, so to a certain extent we had to go along with them. I found myself saying to patients that disinfection was going to be safe because it would not be licensed otherwise, but I really would like them to clean the lenses, as we deposit oils and grease on them and just soaking them is not enough.

Adler: I play the allergy card. I say to my patients the whole point of rubbing and rinsing is that 80 per cent of the bacterial load is removed, and so you are increasing the safety margin. The whole reason for moving towards daily disposables in the first place was to remove sensitivity reactions to tear proteins that accumulate on the lenses. If you do not remove those on a daily basis, by rubbing, you are actually just increasing the chances of allergic eye disease. I just say, rub and rinse, take no notice of what it says on the box, it is wrong.

Walker: The other point about the American market is that two-weekly lens replacement dominates. So, of course, they can get away with no rub more easily, whereas the European market is predominantly a monthly market. One interesting question is, why do we have the same products that are manufactured and licensed in North America and Canada in Europe? Why can we not have different products? What I am implying is, why could Europe not have a rub factor in it, and the same products in America could be no rub? Why, because companies decide to have a no-rub policy, and so every bottle of solution that is sold around the globe has to have no rub on it. Why can it not vary from area to area?