Cross contamination in optical practice

The possibility of infection transmission between patients and practice staff is high. Sally Bates outlines some basic precautions that all staff should be aware of to help minimise the risks.

Areas of risk

It is the optical practice manager’s responsibility to maintain the welfare status of staff and patients; this includes focusing attention on the health, hygiene and conduct of practice staff.

The possibility of transmission of infection through both physical and non physical contact is high risk due to the close proximity of patients and staff. The cleanliness of the optical equipment and maintenance before and after patient usage is paramount to controlling surface sanitation in order to minimise the risk of cross contamination. The instruments are in contact surfaces for the patient’s face, including the brow, chin, bridge of the nose and ears; therefore thorough hygiene standards must be maintained.

The ABDO, the College of Optometrists and the Association of Optometrists (AOP) websites provide excellent Advice and Guidelines specifically linked to working in an optical practice, including knowledge of the theory of cross contamination, including pandemic influenza.

There are three key areas in an optical practice where the risk of infection and cross contamination is high. They are the practice environment, the consulting rooms, and the staff. The practice manager is responsible for all three areas.

The ABDO website (2009) states that the Health and Safety at Work etc Act (1974) ‘requires employers to ensure, so far as is reasonably practical, the health, safety and welfare at work of all employees. The Act covers the provision and maintenance of equipment, the handling and storage of articles and substances, the provision of instruction, training and supervision and the provision and maintenance of a safe working environment.’

Staff must be aware of risks in the optical practice appropriate to their working environment and in relation to dealing with the general public and each other.

Safe working practice

The optical equipment should be appropriately maintained and it is essential that clinical procedures are safely performed by all staff using the apparatus. With the introduction of new products and information regarding infection control, all employers and practitioners should recognise the value of updating their cleanliness and hygiene routines in order to comply with the H&S at Work Act (1974).

Infection transmission must be addressed. According to the College of Optometrists Guidelines (2008) due to the close proximity between staff and patients which is generally less than one metre, particular risks may arise if infection control measures are inadequate. All staff are at risk from being contaminated by general airborne infectious illness for example from coughs, colds and sneezes. However, due to the optometrist’s and dispensing optician’s close working distance to the patient, the threat of infection is higher.

A number of optometrists, like dental professionals, do wear face masks when performing opthalmoscopy and retinoscopy in order to reduce the hazards related to working within 10cm of each individual patient.

According to American research by Hom and Chous (2007) state that the ‘use of respiratory protection in situations of high likelihood of exposure to contagious patients (surgical masks may also be used); patients suspected of having influenza should also be provided with respiratory barrier protection over the mouth and nostril area’.

Although it is the optometrist’s responsibility to protect themselves from the possibility of infection from the patient, some might say that this is disconcerting. Having a consultation with an optometrist who wears a face mask can be rather disturbing to the patient. It could possibly appear that the optometrist is suffering from an infectious disease, or there is possibly a high risk of being contaminated by the optometrist.

This is of particular importance with the threat of a global pandemic influenza, such as swine flu. According to research by Gregory Hom and Chous (2007) optometrists may be challenged with a variety of issues which arise during an influenza epidemic.

This includes infection control in order to maintain the stability and effectiveness of the business, as employees may be absent from work due to illness, and patients may not attend appointments as they are frightened of contracting swine flu.
Other challenges are an obstacle to clinical care by unknowingly directly contaminating the patient, and cross contamination by the use of optical devices such as the optical equipment and contact lenses.

**Physical contact**

Direct physical contact between the optometrist, dispensing optician and the patient is a frequent occurrence. During a routine eye examination a contact tonometer may be used by the optometrist. At several stages during a contact lens fitting assessment the optician will touch the patient’s eyelids and apply the contact lens to the cornea. During the spectacle dispensing the optician or optical assistant will assess the frame fitting on the bridge of the nose, head width and behind the ears, making direct physical contact with each individual patient.

Indirect contact may be between the patient, the optical equipment and the working surfaces. For example when using the non-contact tonometer it is an important routine to use sterile wipes to rub over the chin rest and brow bar prior to each person being assessed and then dispose of the soiled tissue wipes.

According to the College of Optometrists (2008) strict guidelines must be followed with reference to viral diseases such as HIV, Creutzfeld Jacob Disease (CJD) and hepatitis B and C, as there is a high risk of cross infection transmitted from contaminated instruments, equipment and devices such as contact lenses. The Department of Health (1999) have implicated that there is a risk of CJD being transmitted through re-usable ophthalmic devices. This includes the disposable prisms used on the Perkins hand-held applanation tonometer, the disposable prisms used on the Perkins hand-held applanation tonometer, the moulds for scleral contact lenses and trial contact lenses. In the majority of situations, contact lenses should only be used once and then thrown away.

In 1999 the Medical Devices Agency issued advice and guidelines regarding the best practice of contact lens fitting. They recommended that if complex lenses are reused, then they should be cleaned, soaked in Milton’s solution for the required length of time, followed by the regular contact lens disinfection routine. A record must always be kept of patients who have had any reused lenses in their eye at any time. The College expect that this advice is likely to be assessed and updated in the near future, as it was prepared 10 years ago.

**Personal protection**

Personal protection is very important as all practice staff are exposed to the threat of infection. They should be thoroughly aware of personal immunisation and hand hygiene, also cleaning, disinfection and decontamination of selected equipment.

It is suggested by the ABDO (2009) that professional and support staff should have up to date immunisations against infectious diseases such as Polio, Tetanus, Hepatitis B and Tuberculosis.

A particularly important aspect is hand hygiene. Any cuts or abrasions should be covered with waterproof plasters in order to reduce the risk of infection. The ABDO guidelines (2009) state that all consulting rooms should be fitted with a sink with running warm water used for the sole purpose of hand washing. Soap or antiseptic agents may be used, or an alcohol based hand rub. The use of paper towels or a hand drier is recommended, rather than a fluffy cotton towel that can breed germs if not regularly cleaned especially if food is consumed in the area. Implement such as cutlery, cups and saucers should be thoroughly washed. It is advisable that staff use their own cup to minimise cross contamination of cold sores (herpes simplex virus) and other transmitted diseases. There should be separate crockery for use if patients are offered drinks. The staff room should have an area for the application of make up and hair combing - this should not be performed over the table where food is eaten.

**Management matters**

The practice should be clean. This includes the floor, walls, surfaces, windows and chairs. Not only the parts of the practice that are on view to the patients, but also the toilets, staff room and stockroom.

Toilets must be clean and there should be prominent signs displayed in the washroom stating ‘please wash hands’. General guidelines and illustrated signs are available on the ABDO and AOP websites.

- Anti-bacterial hand wash should be supplied by the employer. According to the ABDO guidelines (2009) the empty containers should be replaced and not refilled, to control infection transmission. As a precautionary measure, staff should be advised to thoroughly wash their hands or use an alcohol-based handrub after handling cash and spectacle frame adjustments, particularly prior to eating food, in order to minimise the risk of cross infection.
- Staff room surfaces must be regularly cleaned especially if food is consumed in the area. Implements such as cutlery, cups and saucers should be thoroughly washed. It is advisable that staff use their own cup to minimise cross contamination of cold sores (herpes simplex virus) and other transmitted diseases. There should be separate crockery for use if patients are offered drinks. The staff room should have an area for the application of make up and hair combing - this should not be performed over the table where food is eaten.
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- Waste bins must be emptied daily to prevent unpleasant odours and ensure frequent removal of soiled paper tissues and wipes.
- Harmful substances or optical drugs must be handled with care and correctly stored as advised. Cyclopentolate and Tropcomide, must be kept in the refrigerator. The Association of Optometrists Guidelines (2008) state that the cartons of drugs should be stored on the top shelf with the use by date clearly visible. Drugs should be discarded when out of date.
- Cleaning items for disinfecting and surface maintenance should be kept in a separate cupboard, and in the case of hazardous fluids such as bleach, harmful substances are required to be clearly labelled.
- These procedures are the basic principles of minimising risk. Staff need to be made aware of the importance of following them to provide a healthy working environment.

**Tips for a healthy practice**

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as it requires cleaning and frequent disinfection. There are generally three different ways of hygiene control, they are cleaning, disinfecting and sterilising.

In the consulting room, the pads and sides of the trial frame, the hand held occluders, the refractor head and chair head rest should all be cleaned daily with sterile wipes.

Alcohol cleaner should not be used on trial frames with a rubberised finish, as the rubber will perish.

It is recommended that all contact lens solutions must be discarded prior to their expiry date, and they must be used only in accordance with manufacturer’s instructions. It is common practice to write the date on the side of the bottle when opened and discard once it has have been open for the maximum recommended time, which is usually 28 days. All tops must be replaced on solution bottles and saline cans to prevent any possible airborne contamination.

Knowledgeable staff are the key to answering patient’s questions regarding hygiene and contact lenses. This is a subject that requires frequent reinforcement through training.

Practice environment

In the practice dispensing area the frame rule and pupillometer pads must be cleaned with sterile wipes in order to reduce the risk of transmitting infection from one patient to another.

At the reception desk the telephone ear and mouth pieces should be wiped daily. The computer screens and mouse require the same attention, as they can be used by any member of staff to make appointments, keep records, control stock, record dispensings and be in command of the opening of the till.

A number of practitioners clean the door handles daily, including those on the consulting room door, with sterile wipes as infection is easily transmitted by hand.

It is necessary to disinfect a variety of equipment, as it may come into close contact with the patient’s mucous membranes. For example the applanation tonometer heads are designed for single use only as they are place in contact with the cornea; however some practitioners will disinfect and re-use due to the expense. Sterile apparatus is infrequently used within an optical practice as the equipment does not generally make contact with broken skin or a break in the mucous membrane. However, sterile apparatus must be used if the practice offers laser eye correction, in which case the clinic undertakes a stringent inspection by the Department of Health and awarded certification.

References


Sally Bates is the proprietor of Identity Optical Training, specialising in training courses for practical examination revision and optical assistants VRQ training. She is also an ABDO examiner and part-time lecturer at the ABDO College, where she is responsible for teaching all aspects of practical dispensing.
Guide to PCT schemes

This week Pat Leaning answers questions about a new scheme in Islington, London which aims to ease the burden of minor eye ailment treatment by increasing primary care provision.

What is the nature of the proposed project (training, changes in practice, referral refinement, etc)?
The scheme covers minor red eye seen in optical practice. Optometrists have the ability to offer treatment and advice. It is designed for entry level optometrist core skills and not independent prescriber level.

How many optometrists/practitioners are involved in the scheme?
Five practices are involved with six practitioners.

What is the funding structure in place?
Optometrists are paid an amount to be confirmed for each patient seen. This covers initial visit and any follow-ups. Medication cost is reimbursed at standard drug list price.

Is training required and, if so, by whom?
Training in differential diagnosis, treatment, slit-lamp, clinical governance, record keeping. Training was done at the Institute of Optometry on a course run by Andy Franklin and Bill Harvey and included case analysis and an assessment.

Will any specialist instrumentation/drugs be needed and, if so, how will this be funded?
No. Only what you would expect to find in normal practice.

Will there be any other cost implications, for example travel arrangements?
Training was funded by the PCT. Optometrists had to pay their own time and travel (local journeys only).

What is the timescale for introduction?
The scheme started in April 09.

Is it reviewable and is there provision for clinical governance/accreditation?
To be reviewed in October 2009. Peer review sessions and auditing of a sample of records once a year are currently proposed.

How do you see this scheme benefiting the community?
It will offer easy rapid access for minor red eye conditions. There is no need for the patient to go to hospital. The patient has a one-stop shop for advice, treatment and supply of medication.

In what way might this scheme benefit the eye care practitioner?
The scheme offers more job satisfaction, giving the opportunity for practitioners to use more of their skills and build relationships with local GPs. Practitioners get paid for doing clinical work and optometry’s profile within the PCT is increased.

Pat Leaning is an optometrist on the Islington PCT.

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