CLINICAL GUIDELINES:

FITTING OF CONTACT LENSES

PREPARED FOR THE PROFESSIONAL BOARD FOR
OPTOMETRY AND DISPENSING OPTICIANS

By

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CLINICAL GUIDELINES

CONTACT LENS FITTING

The fitting of contact lenses is part of the scope of practice and profession of registered optometrists in South Africa. No unregistered person is allowed to supply, sell, prescribe or dispense contact lenses to the public. This document serves as a guideline to practitioners as to the minimum clinical requirements for the fitting of contact lenses. Practitioners must at all times take full responsibility for every aspect of the contact lenses fitting process (pre-trial procedures, tolerance trials, dispensing and after-care).

MINIMUM EQUIPMENT REQUIREMENT:

In order to see contact lenses patients the practitioner must have the minimum equipment as outlined:

- Equipment to obtain the full objective and subjective refractive status of the patient.
- A slit lamp biomicroscope with a minimum magnification of about 16X and adequate resolution to decipher the endothelial mosaic
- An instrument for measuring the corneal curvature and quality, eg. a keratometer or corneal topographer
- Appropriate equipment to conduct an internal ocular health assessment as well as the binocular status of the patient with contact lenses on.

PRE-TRIAL PROCEDURES

- Conduct a thorough case history to ascertain:
    - Reason for contact lenses
    - Occupation
    - Hobbies
    - Ocular health
    - General health
    - Relevant Family history
    - Medication

- Previous Injuries/trauma

Review whether there is any contraindication to the use of contact lenses from the case history. Should the history not preclude contact lens wear, continue...

- Take the necessary measurements to further determine suitability for contact lens wear and appropriate lens material and/design that should be used:
  - Thorough examination of the anterior segment with the slit lamp
  - Tear function tests – make a diagnosis on tear function after performing at least 2 tests eg. TBUT and TTT.
  - K-Readings/ Corneal topographical profile
  - Palpebral aperture size
  - Horizontal/Vertical visible iris diameter (HVID/VVID)
  - Pupil diameter size, both photopic and scotopic.

Review whether there is any contraindication for contact lens wear from the pre-fitting measurements eg. severe dry eye. Proceed with tolerance trials....

TOLERANCE TRIALS

Consider all previous procedures conducted and the relevant measurements to determine whether the patient is ideally suited for a soft, RGP or combination contact lens, taking into consideration the patient's primary reason for wanting to use contact lenses. Discuss the options with the patient and motivate your choice. Ensure that the patient fully understands the reason that the particular lens material and design has been chosen by you as the lens that is best suited to the patients needs and lifestyle, provide best refractive correction and which will not compromise ocular health of the patient.

Perform the necessary calculations required for the specific lens design chosen:

SOFT LENSES:

- wearing mode - disposable(daily, weekly, two-weekly, monthly), conventional, extended wear, infrequent wear,
- material – Dk, surface treatment etc
- water content – low, medium or high
- design - spherical, aspheric, toric, multifocal, moulded, spun cast, lathe cut.

- parameters - base curve, diameter, SAG, eccentricity, optic zone diameter
- power - vertex corrected

Write down the lens of first choice and proceed to select the appropriate lens from the trial lens set.

Instruct the patient as to where to focus and inform her/him of the expected sensation that will be experienced on lens insertion.

Provide the patient with a tissue explaining that it should be used if there is reflex tearing.

Insert the lens into the patient's eye and allow to settle in for ~ 20 minutes.

You may use this time to educate the patient about the responsibilities of contact lens usage.

Examine the contact lens in-situ, noting:

lens position – central, inferior, superior, nasal, temporal

corneal coverage

movement on blink

lag on excursion

push-up test

An ideal soft lens fit is described as

- Lens well centered and crossing the limbus by ~1- 2mm
- Complete corneal coverage in all directions of ocular movement
- 1mm movement on blink
- 1.5mm on upward sag
- 1.5mm on lateral lag
- retinoscope and keratometric reflexes clear before and after the blink

edge of lens must not impinge on the conjunctiva

When a satisfactory lens fit has been achieved, perform an over-refraction to determine the final lens power.

Should you decide to allow the patient to leave your practice with the pair of trial lenses for any period of time, ensure that the patient has been educated on the insertion and removal procedures, adaptive symptoms, cleaning procedures, wearing schedule during the adaptation period and emergency procedure (include a contact number for emergencies). Get patients to sign a document acknowledging that they

have been advised on all the necessary procedures and care. The patient must be provided with contact lens solutions with the contact lenses.
The optometrist takes full responsibility for all instructions provided to the patient. The patient must be personally observed by the optometrist whilst inserting and removing the lenses for the first few times and should the patient injure the eye in the process, a slit lamp examination must be performed and the appropriate remedial action taken before the patient leaves the practice. The non-registered practice staff may be utilized in providing the education instructions, eg the cleaning and disinfecting procedures. However, the optometrists should in these instances, provide the patient with written material to ensure that the instructions that have been approved by the optometrist are at hand should the patient not recall the verbal information provided at the practice.
Advise the patient of the importance of the after-care visits and make an appointment for the first after-care session before the patient leaves your rooms.

Stringent contact lens protocols must be adhered to for ALL types of contact lenses including cosmetic contact lenses.

When two weekly or monthly disposable contact lenses are dispensed, the patient must be advised to have his/her eyes examined by the optometrist on an *annual basis* (after the initial after-care visits). Practitioners must be personally aware of the patient's ocular health status each time repeat contact lens prescriptions are handed out. Contact lenses must not be handed over to patients without an ocular health evaluation beyond a year after the last consultation.
IT IS ILLEGAL FOR CONTACT LENSES TO BE HANDED OVER BY ANYONE IN A PRACTICE OR ELSEWHERE WITHOUT THE PATIENT HAVING HAD A COMPREHENSIVE VISUAL AND OCULAR HEALTH CONSULTATION AND A THOROUGH EVALUATION FOR THE SUITABILITY OF CONTACT LENS USAGE, BY THE REGISTERED OPTOMETRIST. SHOULD THE PATIENT CHANGE OPTOMETRISTS, THE NEW OPTOMETRIST HAS TO OBTAIN THE DETAILS FROM THE PREVIOUS PRACTITIONER IN WRITING (DATED) OR RE-EXAMINE THE PATIENT. CONTACT LENS PRESCRIPTIONS ARE TO BE PROVIDED TO REGISTERED PRACTITIONERS ONLY FOR CLINICAL

DISPENSING AND AFTER CARE.

RIGID GAS PERMEABLE LENSES

- wearing mode – daily wear, extended wear
- material - high/low Dk, RGP and hydrogel combination,
- design - spherical, toric, tricurve, multicurve, aspheric, reverse geometry
- parameters - overall diameter, optic zone diameter, base curve, peripheral curve radii and widths, center and edge thickness
- power – vertex corrected

Work out all the parameters that will be required for the lens of first choice and proceed to select the appropriate lens from the trial lens set.

Instruct the patient as to where to focus and inform her/him of the expected sensation that will be experience on lens insertion.

Provide the patient with a tissue explaining that it should be used if there is reflex tearing.

Insert the lens into the patient's eye and allow to settle in for ~ 20-25 minutes.

You may use this time to educate the patient about the responsibilities of contact lens usage.

Examine the contact lens in-situ with white light, noting:

lens position – central, inferior, superior, nasal, temporal

eyelid position – lens lid relationship

movement on blink

lag on excursion

push-up test

Insert fluorescein and note:

lens-cornea relationship with the use of fluorescein -both the static and dynamic fit patterns.

Utilize the speed of the fluorescein mixing as an indicator of tear exchange.

An ideal RGP lens fit is described as:

Reasonably well centered lens

2-3mm movement on blink

Even miminal central apical clearance

Slight mid-peripheral touch/bearing

Even, thin edge clearance of 0.5-1.50mm width

If you are satisfied with the lens fit, perform an over-refraction to determine the final lens power (Remember to vertex correct the prescription if the power is greater than ± 4.00DS).

THE CONTACT LENS DISPENSING APPOINTMENT

Allocate adequate time for this appointment, noting that you will need to instruct the patient on insertion and removal techniques, the care and maintenance of the contact lenses, wearing schedule, adaptive symptoms and other issues that impact on the use of their lenses. Ideally, the patient should be given a list of "Do's and Don'ts with Contact Lens Usage".

The practitioner must verify the lens parameters to ensure that they are according to that which had been ordered. Insert the lenses, allow them to settle and examine the fit under white light and with flourescein. Record the vision and proceed with the instructions and observation of the insertion and removal procedures.

Educate the patient on the insertion and removal procedures, adaptive symptoms, cleaning procedures, wearing schedule during the adaptation period and emergency procedure (include a contact number for emergencies).

WEARING SCHEDULE

For RGP lenses instruct your patients to adapt to the lenses by starting off using the lenses for 3 hours on the first day and increasing the wearing time by an hour a day. For soft contact lenses, patients should have the lenses on for 3 hour periods on day one with an hour break in between and increase the wearing periods by 1 hour every day, retaining the 1-hour break in between.

Explain to the patient the frequency of after-care visits that are mandatory:

Appointment 1	-	Week 1
Appointment 2	-	Week 3
Appointment 3	-	One month after appointment 2
Appointment 4	-	3 months after appointment 3
Appointment 5	-	6 months later

Annual appointments thereafter.

An extended wear patient MUST be seen on the morning after they have used the lenses overnight for the first time (preferably your first appointment in the morning) Keratoconic patients must be seen every 6 months as opposed to annually.

The patient must be provided with contact lens solutions with their contact lenses. Get patients to sign a document acknowledging that they have been advised on all the necessary procedures, wearing schedule and care.

The optometrist takes full responsibility for all instructions provided to the RGP lens patient. The patient must be personally observed by the optometrist whilst inserting and removing the lenses for the first few times and should the patient injure the eye in the process, a slit lamp examination must be performed and the appropriate remedial action taken before the patient leaves the practice. The non-registered practice staff may be utilized in providing the education instructions, eg the cleaning and disinfecting procedures. However, the optometrists should in these instances, provide the patient with written material to ensure that the instructions that have been approved by the optometrist are at hand should the patient not recall the verbal information provided at the practice.

AFTER CARE APPOINTMENTS

The following procedures must be completed during the after-care visit:

1. Case history
2. Visual acuity
3. Examination of lenses with white light
4. Fluorescein assessment for RGP lenses
5. Thorough examination of the cornea(all layers) and adnexae with the slit lamp
6. Removal of the lenses and staining of the cornea with flourescein
7. Eversion of the lids to examine the tarsal conjunctiva
8. Examine the contact lenses under high magnification for surface deposits or any other surface or edge defects.
9. K-readings/corneal topography for corneal distortions