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Beating the Bad Guys - keep your Contact Lenses Clean and Healthy for Your Eyes

The moment you start wearing your contact lenses, the biofilm secreted by the eyes starts **coating the contact lens surface**, which acts as a shelter for the pathogens. In addition, the lenses are exposed to external environmental factor that also attaches various kinds of elements on the lens surface. The cumulative impact is noted as reduction of wearing comfort which is manifested as the lens becomes older. Many of such lens surface coatings or environmental elements are flushed out from the lens surface during the course of natural blinking by the tears. The lens surface coatings and other elements which are not flushed out from the lens by tears during blinking remain adhered to lens surface which are known as contact lens deposits. These contact lens deposits are the **bad guys** that interfere with subjective comfort and lead to drop out from lens wearing habit. They may appear in many different forms - smooth surface coatings, discrete particles, spots or discolorations, originated from sources such as tear chemistry and the environment. The common types of deposits that formed on the lens surface are:

Protein Deposits

Protein deposits are natural components of tears and can begin to build upon lenses immediately on lens insertion. Proteins are the major type of deposit associated with hydrogel lenses. They result from the interaction of the contact lenses with the proteins of the tear film. The absorption of proteins by different contact lens materials depends on the material and its water content. The degree of protein deposits on a lens is influenced by variations in individual's tear film chemistry, and also by how different lens materials absorb protein deposits. This is where a professional consultancy of an Optometrist is essential before taking contact lenses. The deposited protein gives the lens an opaque and cloudy appearance which necessitates lens replacement.

Lipid Deposits

Lipids are generally found in small amounts on hydrophobic lenses, but may be an important concern for rigid gas permeable lenses wearer, especially on all those lens materials that contain silicone. These deposits come from the lipid layer of the tear film, from the skin and from lipids and oils from cosmetics and lotions. They may also be transported during lens handling. Lipid layer of the tear film may also dries up on the lens surface. Lipid deposits depend primarily upon the individual characteristics. The professional Optometrist examines your eyes before deciding on to the right lens material for your eyes and lifestyle.

Mucin Deposits

Mucin balls are formed from naturally occurring mucins at the ocular surface that have collapsed and then gradually coalesce under the rolling motion of contact lens. Mucin balls do not have a defined structure at the centre. The professional Optometrist checks the two key factors of silicone hydrogel lens, i.e, the surface characteristics and intrinsic stiffness that contribute to the formation of mucin balls in the clinical set up before fitting the right lenses.

Fungal Deposits

Fungus invasion and contamination of lens matrix often occurs with intermittent wear and long term lens storage. The straight forward meaning is a contact lenses often needs expert guidance of professional optometrist times and again.

Jelly Bumps

Jelly bumps are the most common type of inorganic deposit which occurs most frequently on extended wear contact lenses. Usually they occur after weeks or months of wear within the lens matrix of the lens. They cannot be removed without damaging the surface of the lens. Hence a contact lens with jelly bump deposits has to be replaced.

Environmental Deposits

Rust spots and particles from cosmetics are main types of deposits that usually form because of environmental affects. Rust spots are caused by the use of tap water or by a foreign matter. Deposits from cosmetics have a, greasy appearance and are caused by mascara, hair spray, cream etc.

The contact lens deposits are the bad guys. They adversely affect the lens wearing comfort which is the key criterion for lens wearers and whether or not they ultimately remain in contact lenses. In fact, lack of comfort is the number-one reason why individuals stop wearing contact lenses.

Several Multipurpose solutions are available to remove these deposits or beat the bad guys. They can effectively be used with well defined rubbing and cleaning process. Many contact lens wearers do not like the burden of having to perform a daily "rubbing and cleaning" regimen. They are the most appropriate candidates for Daily Disposable Lenses. Some wearers may be negligent which may result in contact-lens discomfort and finally drop out. **Sensible wearer understands that contact lenses are medical devices, and like any other medical devices they also require professional recommendations to ensure the safest and most effective lens-wearing experience.** The professional recommendation regarding multipurpose solutions is also more than just an afterthought.

As a potential contact lens user you need to understand that because of the consumer-direct marketing by contact lens companies, consumers are well-educated as to what is available, but not to their specific needs. That's where the practitioners should fit themselves to select suitable lens and consider lens care regimens. They should recommend a cleaning system with a full strength cleaner that also includes a rinse and leads to healthy lens wear experience with utmost comfort.

References:

1. Contact Lenses: Fundamentals and Clinical Use, By Harold A. Stein, MD, FRCS(C), Melvin I. Freeman, MD, FACS, Raymond M. Stein, MD, FRCS(C), Lynn D. Manad, BA, CLS
2. IACLE Resource Materials.
3. Contact Lenses : Medical Aspects, By M Ruben, FRCS, DOMS, C Y Khoo, FRCSE, FRACS, DO, AM
4. The Contact Lens Manual: A Practical Guide to Fitting, By Andrew Gasson, FCOptom, DCLP, FAAO, Judith Morris, MSc, FCOptom, FAAO, FIACLE
5. Contact Lens Fitting Guide, By Ajay Kr Bhootra
