Crucial Contact Lens Considerations During Pregnancy

Women who are pregnant.

For the first time ever in the U.S., birth rates for women under age 30 declined, whereas rates for women age 30 and over rose. The highest birth rate is now represented by women aged 30–34.[i] Coincidently, the average age of contact lens wearers worldwide is age 31, and the majority are female.[ii] Contact lenses are a popular, safe and effective vision correction option, an option that women choose more frequently than men as two thirds of contact lens wearers are female. Women who are pregnant likely need to receive some special consideration when determining contact lens design, material and eye doctors' recommendations for needed follow-up visits.

Ocular changes occur commonly during pregnancy. Those changes include fluctuations in refractive error (changes in glasses and contact lens prescription), alterations of corneal sensitivity and thickness, decreased tolerance to contact lenses secondary to changes in the corneal tear film (dry eye), decreased intra-ocular pressure and hemeralopia (inability to see as clearly in bright light as in dim light*).*

Possible changes to the interior of the eye include a worsening of diabetic retinopathy whereby blood vessels in the retina (the light-sensitive layer of tissue in the back of the eye) leak and can cause vision loss, central serous chorioretinopathy (a form of leakage in the central portion of vision), increased risk of peripheral retinal dystrophy and retinal detachment.[iii] Regular perinatal eye examinations should be scheduled to assure continuous surveillance of healthy eyes.[iv]

Women not pregnant might also have vision changes.

Oral contraceptives are the most popular form of reversable birth control among U.S. women, chosen by nearly 30% of women.[v] With 75% of adults ages 25 and older wearing contacts,[vi] some of the more common side effects of oral contraceptives on eye health and vision (and contact lens wear) should be understood. These include modifications of refraction or ocular tension (pressure inside the eye), intolerance of contact lenses, keratitis (debridement of the corneal epithelial layer), and alterations of color vision. Blood vessel (vascular) complications, although rare in women under age 40, are the most serious effect and include vein or artery occlusions that may block blood flow to the eyes and lead to permanent vision loss.[vii] [viii]The risk of this happening is affected by smoking, irregular lipid and glucose metabolism, and hypertension. Regular eye examination should be scheduled to assure continuous surveillance of healthy eyes.

Women with diabetes and seeking pregnancy.

Women with preexisting type 1 or type 2 diabetes who are planning pregnancy or who have become pregnant should be counseled on the risk of development and/or progression of diabetic retinopathy.

Dilated eye examinations should occur ideally before pregnancy or in the first trimester, and then should be monitored every trimester and for one year postpartum as indicated by the degree of retinopathy and as recommended by the eye care provider.[ix] Women who develop gestational diabetes mellitus (GDM) during pregnancy may also experience blurriness and light sensitivity. These vision changes could also serve as a warning for preeclampsia (PE) brought on by high blood pressure. PE and GDM are both associated with increased risk of future cardiovascular disease (CVD).[x] In addition, if wearing contact lenses, corneal changes should also be monitored to assure adequate oxygenation of corneal tissue.

Conclusion

While all contact lens wearers require ongoing management by their doctor of optometry, women deserve specific attention to the conditions that can uniquely affect them. Contact lenses are medical devices regulated by the U.S. Food and Drug Administration (FDA)[xi]

---

[i] https://www.cdc.gov/nchs/data/databriefs/db287.pdf

[ii] Morgan PB, Woods CA, Tranoudis IG, Helland M, Efron N, Orihuela GC, Grupcheva CN, Jones D, Kah-Ooi T, Pesinova A, Ravn O, Santodomingo J, Malet F, Sze L, Cheng P, Végh M, Erdinest N, Ragnarsdóttir JB, Montani G, Davila-Garcia E, Motozumi I, Byoung SC, Bendoriene J, Worp E. International contact lens prescribing in 2012.External Contact Lens Spectrum, 2013.

[iii] Gotovac M, Kastelan S, Lukenda A. Eye and pregnancy. Coll Antropol. 2013 Apr;37 Suppl 1:189-93. PMID: 23837242.

[iv] Naderan M. Ocular changes during pregnancy. J Curr Ophthalmol. 2018 Jan 3;30(3):202-210. doi: 10.1016/j.joco.2017.11.012. PMID: 30197948; PMCID: PMC6127369.

[v] Hillard PA. Contraceptive use and attitudes among U.S. women. Womens Health Issues. 1994 Fall;4(3):138-43. doi: 10.1016/s1049-3867(05)80053-2. PMID: 7950393.

[vi] Cope JR, Collier SA, Nethercut H, Jones JM, Yates K, Yoder JS. Risk Behaviors for contact lens–related eye infections among adults and adolescents — United States, 2016. MMWR Morb Mortal Wkly Rep. 2017;66(32):841-5.

[vii] Glacet-Bernard A, Kuhn D, Soubrane G. Ocular complications of hormonal treatments: oral contraception and menopausal hormonal replacement therapy. Contracept Fertil Sex. 1999 Apr;27(4):285-90.

[viii] Moschos MM, Nitoda E. The impact of combined oral contraceptives on ocular tissues: a review of ocular effects. Int J Ophthalmol. 2017 Oct 18;10(10):1604-1610. doi: 10.18240/ijo.2017.10.19..

[ix]https://www.aoa.org/AOA/Documents/Advocacy/HPI/HPI%20Timing%20into%20Comprehensive%20Optometry%20Eye%20Examination%20_Diabetes.pdf

[x] https://bmcpregnancychildbirth.biomedcentral.com/articles/10.1186/s12884-019-2591-1

[xi] FDA. Focusing on contact lens safety.External 2008.