

# Bathing the desert: scleral lenses for a case of Sjogren's Syndrome related dry eye

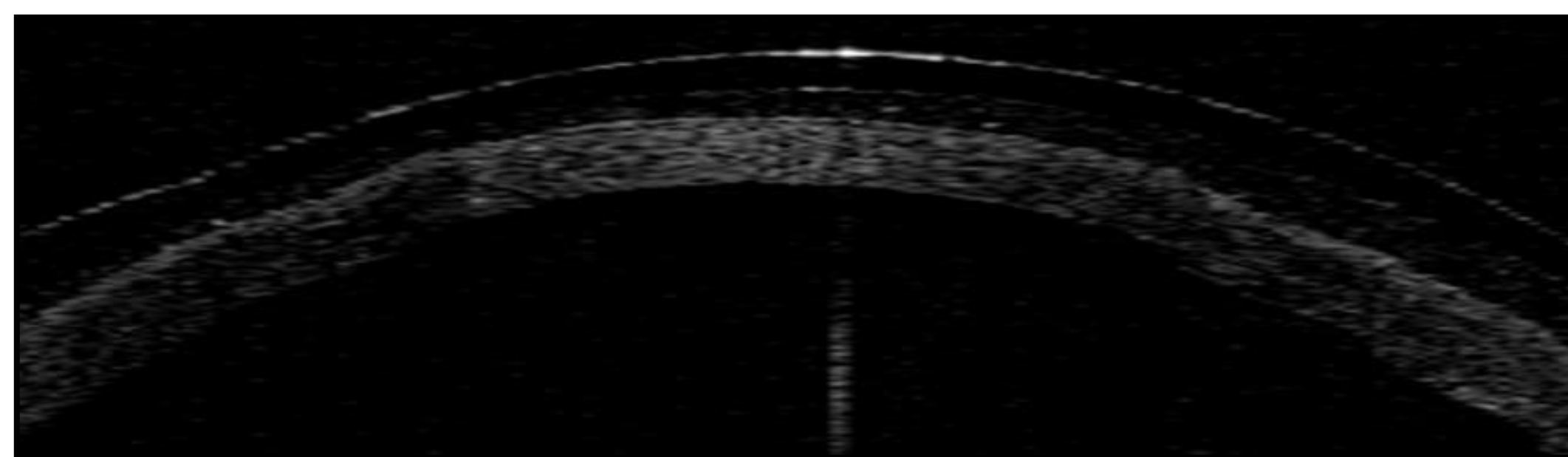
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## CASE BACKGROUND

- Dry eye syndrome can be classified into two subgroups: Aqueous deficient (ADDE) and Evaporative (EDE)
- Sjogren's syndrome (SS) is the classic cause of ADDE
- SS is an immune system disorder, typically associated with other autoimmune disorders
- More than 200,000 cases per year in the United States
- The two most common symptoms of SS are dry eyes and dry mouth
- Primary treatment goal for ADDE is to increase tear volume – classically accomplished by increasing tear volume or decrease tear outflow

## CASE HISTORY

- SKS, a 69-year-old Caucasian female presented on August 25, 2016 with a chief complaint of severe ocular discomfort and photophobia
- Her history was positive for rheumatoid arthritis (RA), SS related keratitis, filamentary keratitis, and photophobia
- Current ocular medications included: Restasis QID, FML BID, Mucomyst BID, and Maxitrol ung QHS OU; she was also on oral Doxycycline 100 mg daily
- She had recently undergone cataract surgery June 6 (OD) and June 20 (OS) combined with thermal cautery occlusion (TCO) of all four puncta



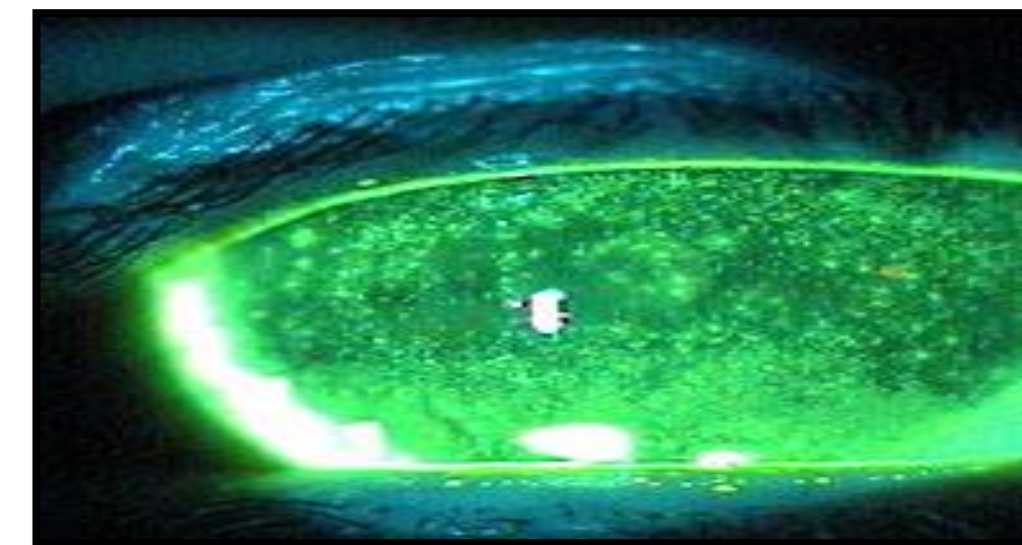
	Base Curve	Power	Sagittal Depth	Diameter	Landing Zone
OD	8.04	+4.50 D	4200 microns	16.5 mm	SLZ +6
OS	8.04	+2.25 D	4200 microns	16.5 mm	SLZ +6

## INITIAL PRESENTATION

- Entering acuities were: OD 20/40 and OS 20/80
- External examination revealed 2-3+ hyperemia of surrounding adnexa (Image 1)
- Slit lamp examination revealed 3-4+ diffuse SPK OU (Image 2)
- Anterior chamber and iris examination were limited secondary to severe keratitis

**Image 1(below):** External photo of SKS showing hyperemia of adnexa OU

**Image 2 (right):** Sodium-fluorescein staining of right cornea showing diffuse 3-4+ SPK



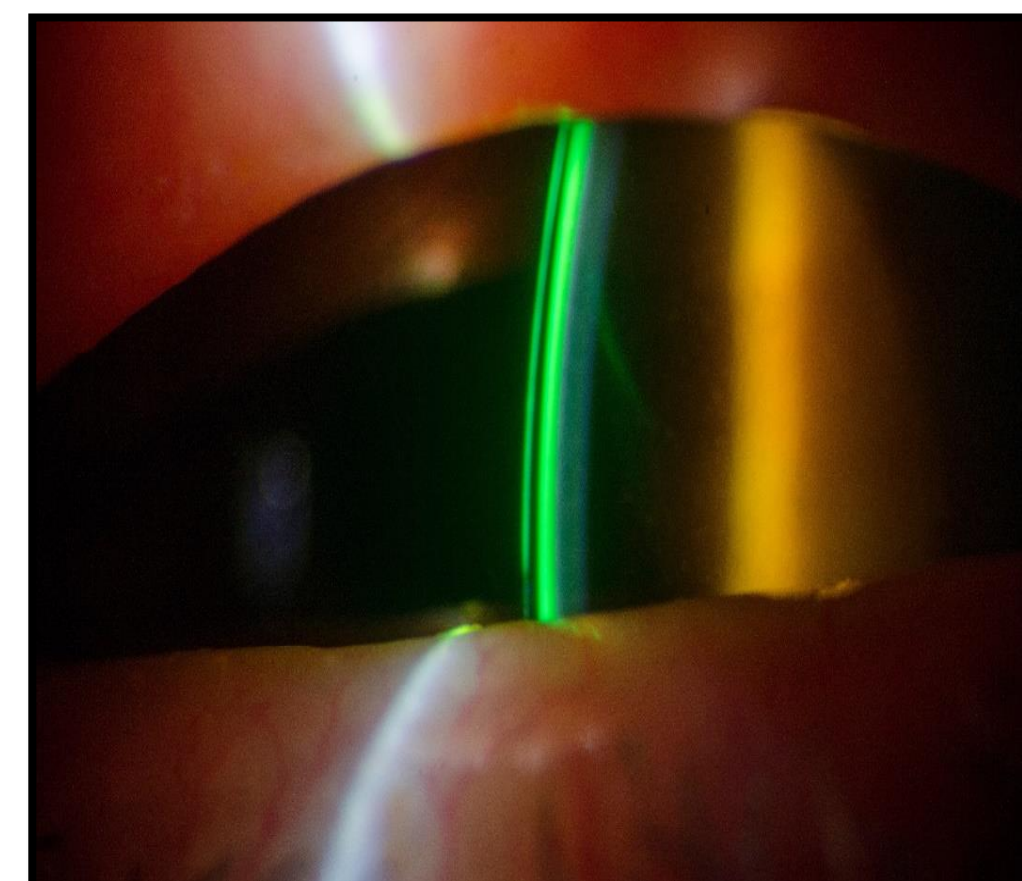
## SCLERAL LENS FITTING

- SKS was initially fit with an Ampleye Scleral lens from Art Optical on September 2, 2016 which was then finalized over the next three months (Table 1)
- During the fitting process, SKS appreciated improvement in comfort and decreased photophobia

**Image 3(upper left):** Anterior segment OCT demonstrating corneal vault of scleral lens

**Table 1(lower left):** Final scleral lens parameters

**Image 4 (right):** Slit beam demonstrating lens vault and fluid reservoir highlighted by sodium-fluorescein dye



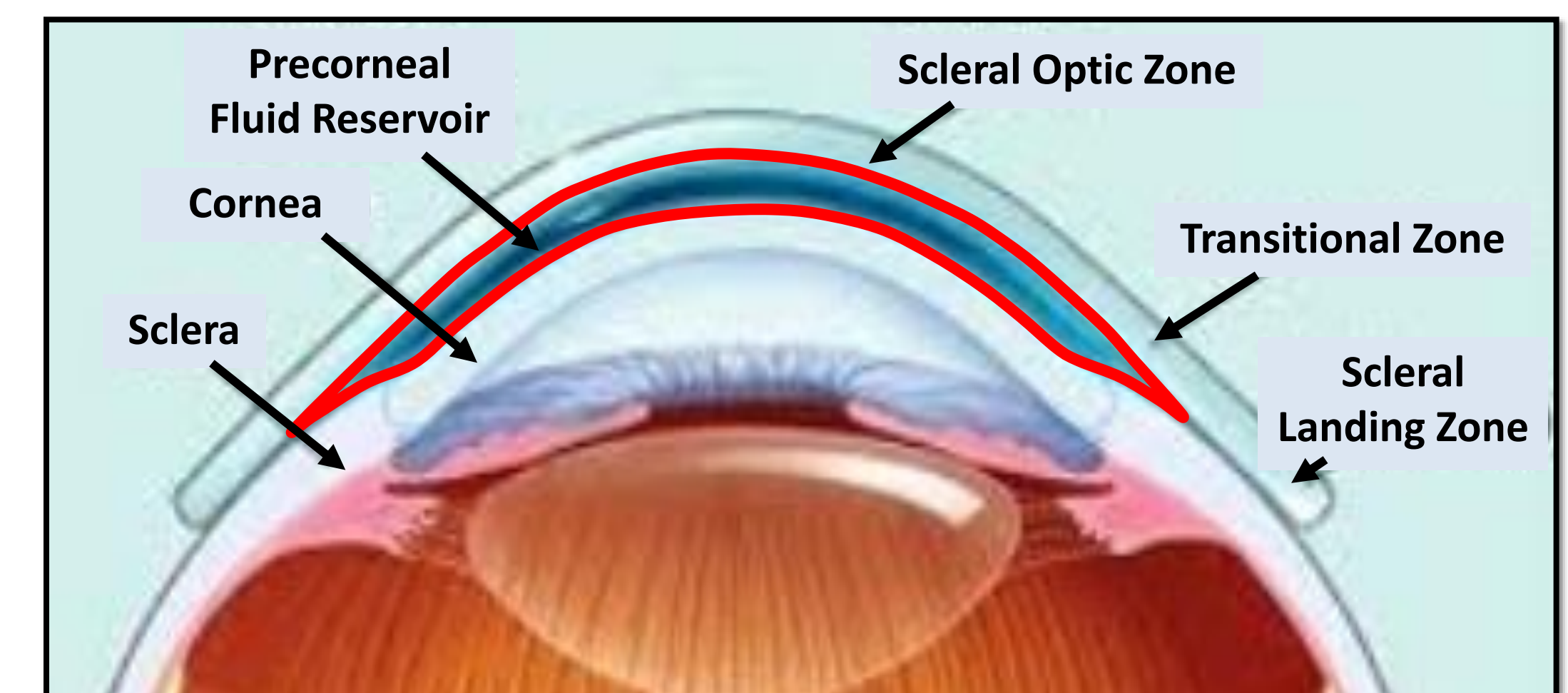
## RESULTS

- SKS was able to discontinue the Maxitrol ung and FML as her symptoms improved; however, she did continue using Restasis and Mucomyst BID
- In the end, SKS reported significant improvement of her symptoms and was able to move about comfortably without wearing multiple pairs of sunglasses and a large brim hat to shade her eyes
- She also reported a significant improvement psychologically, having suffered from depression secondary to her severe discomfort and how it had affected her ability to enjoy life

## CLINICAL PEARLS

- The primary goal of treating ADDE is to increase hydration of the ocular surface
- Scleral contact lenses are an excellent treatment option for ADDE by providing a fluid reservoir to constantly bathe the ocular surface (Image 5)
- For patients with severe dry eye, their severe discomfort can greatly affect their daily lives and result in depression; thereby, finding a long term treatment option for those patients can be life changing

**Image 5(below):** Illustration demonstrating the precorneal fluid reservoir (outlined in red) created by a scleral contact lens



Abstract and references are available upon request