

Abstract

- Overall Purpose:** assess the long-term impact of regular caffeine consumption on Dry Eye Disease symptom severity, utilizing objective and subjective metrics
- Secondary Goal:** determine if any additional demographic, medical, and social variables correlate with dry eye disease symptoms severity

Background

- Literature review of prior investigative studies show methodology using semi-structured questionnaires and medical assessment with meta-analysis to observe significant trends
- In this study we have decided to:
 - Perform tests in an Ophthalmology Clinic (subjective assessment) that measure:
 - tear production
 - tear clearance rate
 - corneal and conjunctival epithelial damage
 - visual acuity
 - Give questionnaires assessing dry eye symptoms (objective assessment)
 - Ocular surface disease index
 - Visual analogue scale
 - Caffeine consumption questionnaire
 - Dry eye disease symptom

What Is Dry Eye Disease?

Dry Eye Disease: multifactorial disease of the ocular surface characterized by a loss of homeostasis of the tear film, accompanied by ocular symptoms in which tear film instability and hyperosmolarity, ocular surface inflammation and damage, and neurosensory abnormalities play etiologic roles.¹

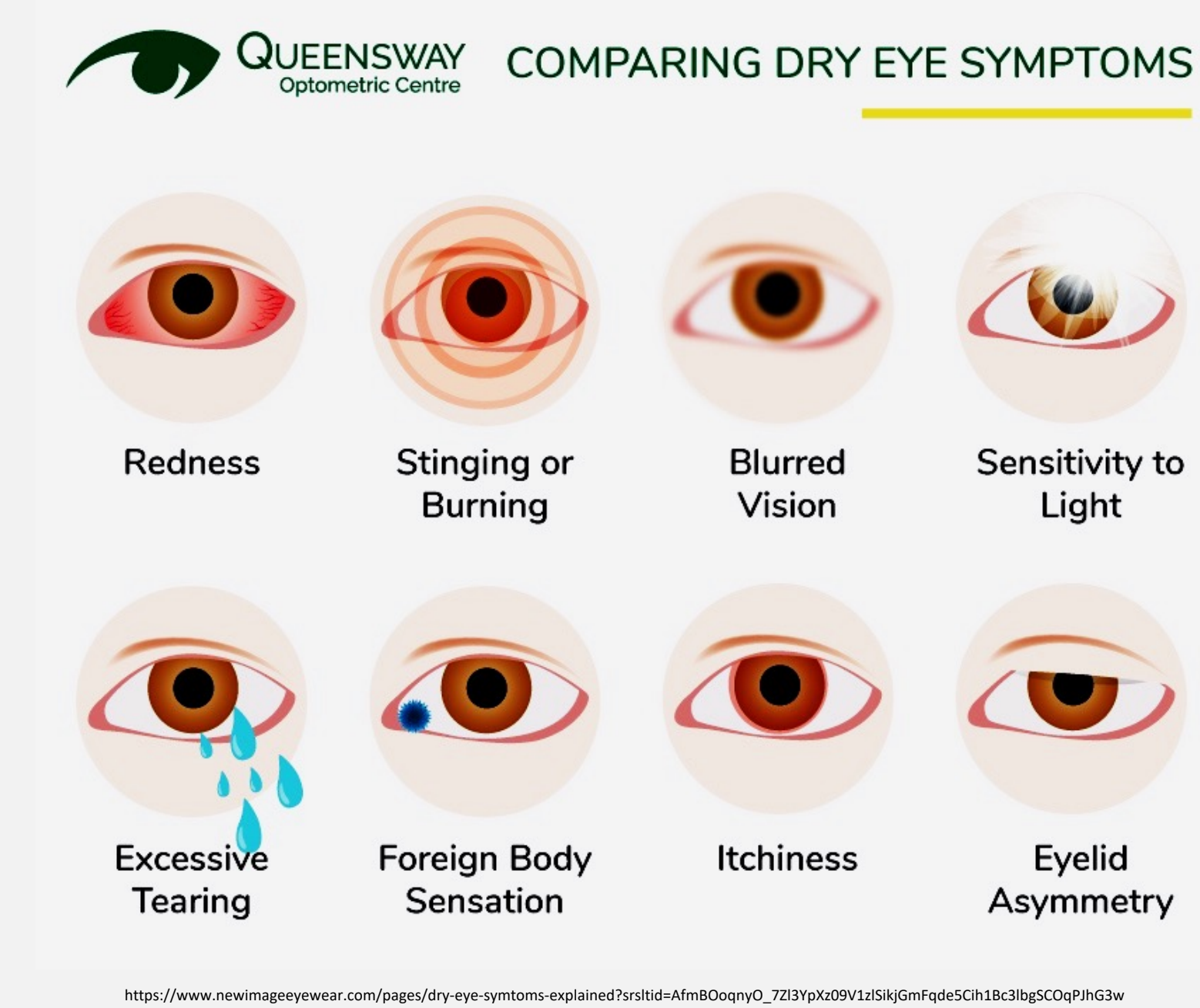
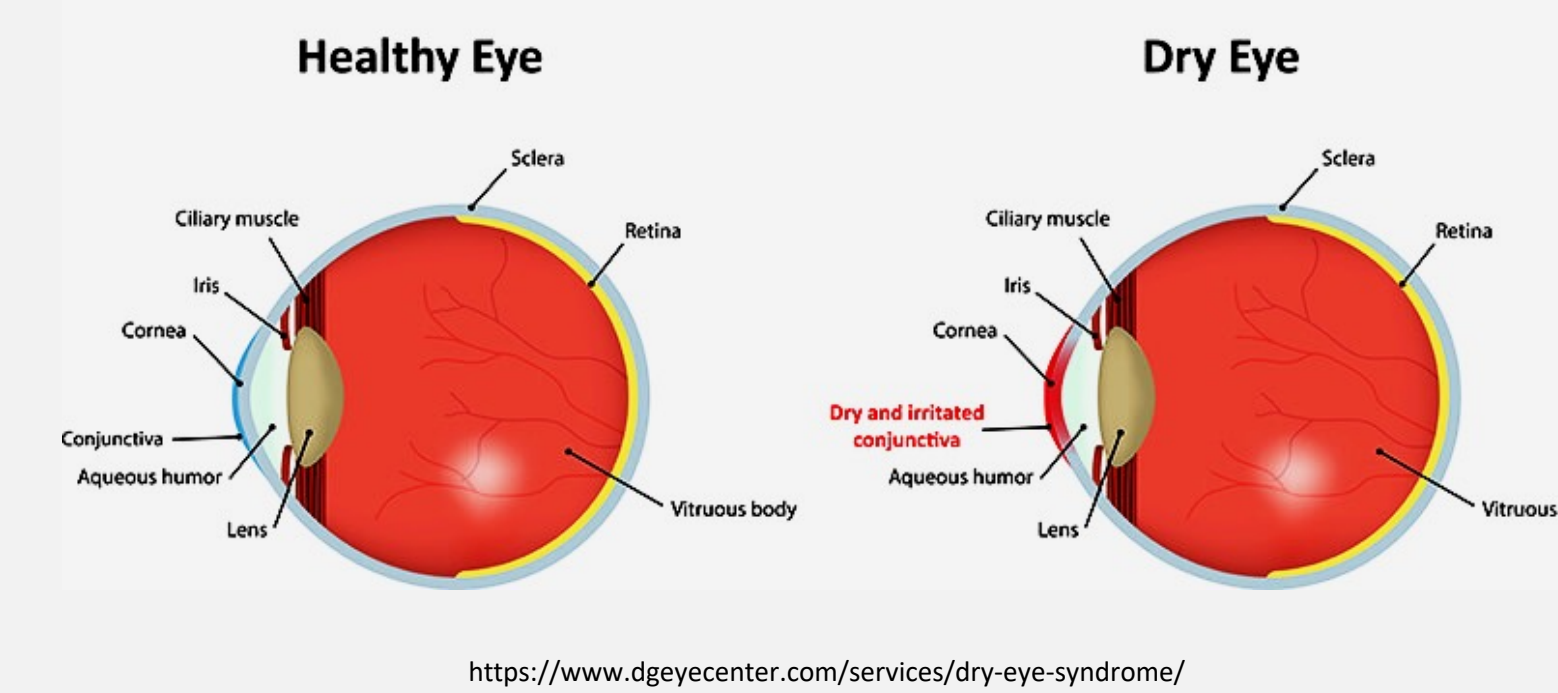


Aqueous-deficient dry eye disease² (decreased tear secretion) Hyperevaporative Dry Eye Disease² (increased tear evaporation)

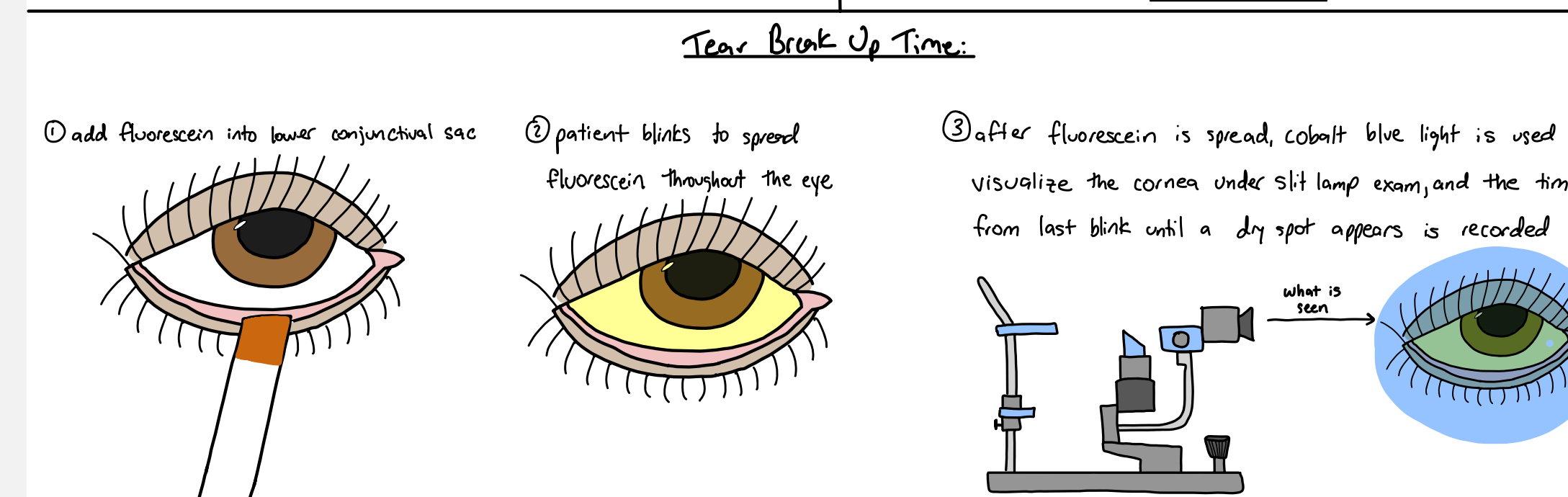
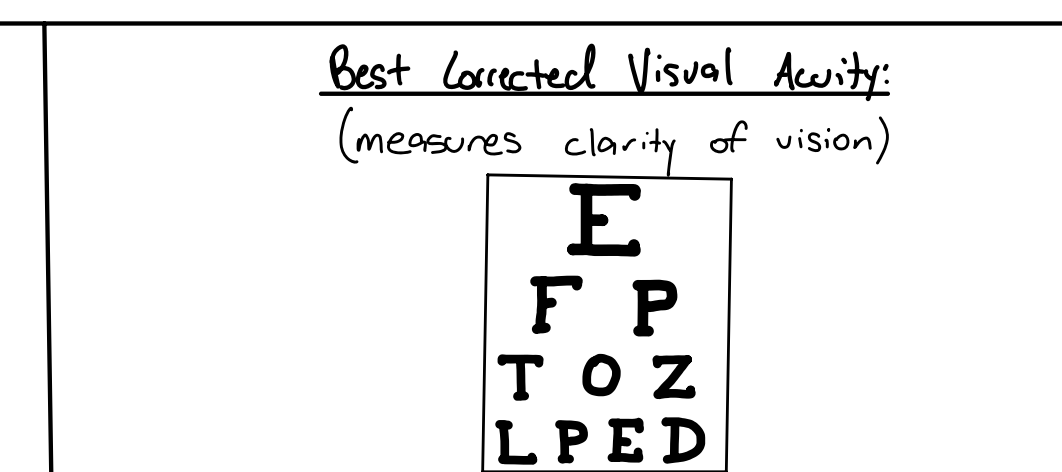
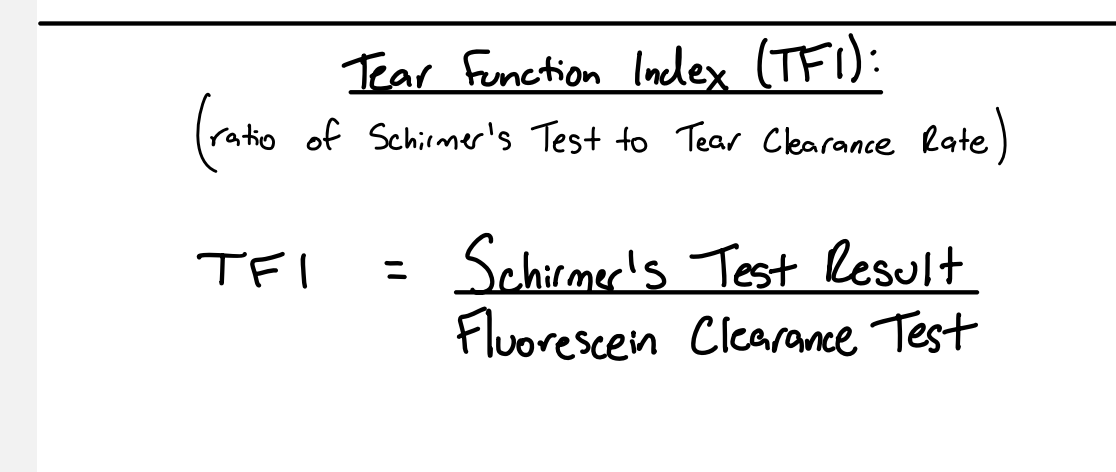
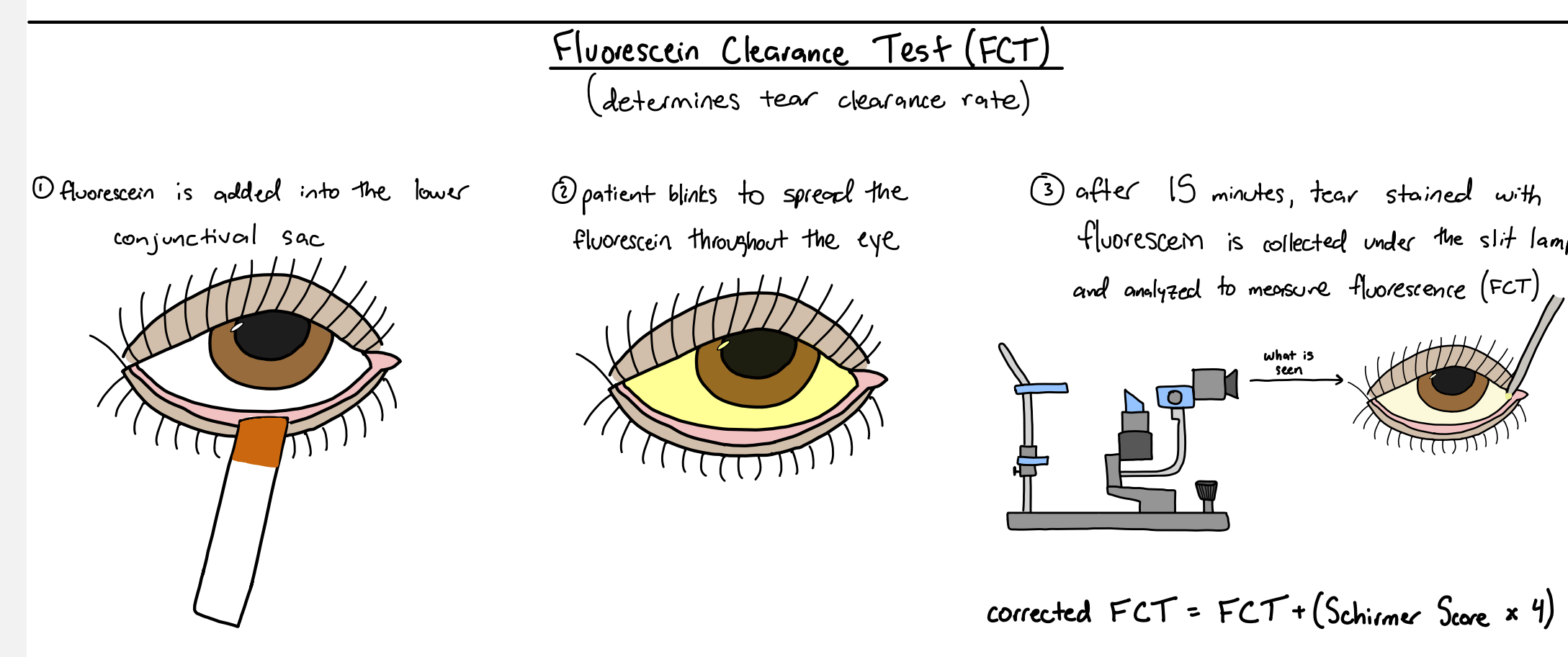
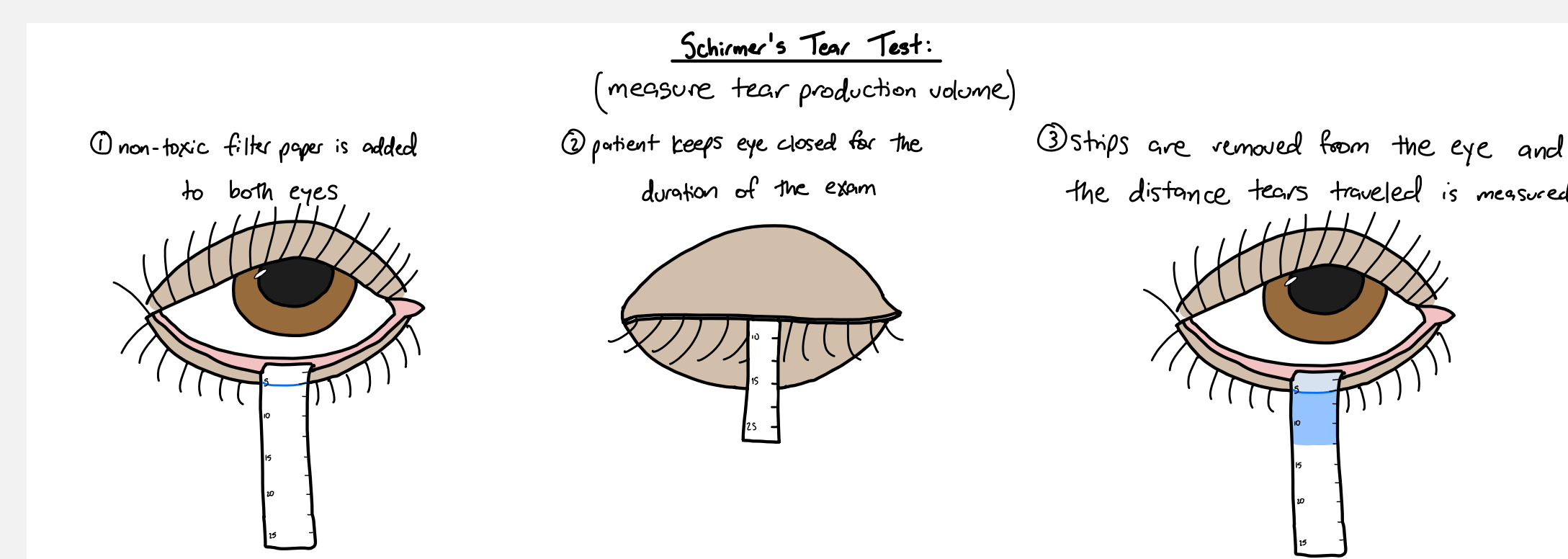
Common Symptoms³:

- ocular discomfort
- fatigue
- visual disturbances
- interference with the quality of life and vision
- reduction of work productivity

Dry Eyes



In Office Tests



Ocular Surface Disease Index

- questionnaire assessing:
- frequency and severity of dry eye symptoms
 - dry eye symptom impact on daily life
 - environmental triggers

Visual Analogue Scale

patients rate their perceived level of eye dryness on a scale from 0 (no dryness) to 10 (extreme dryness)

Caffeine Consumption Questionnaire

caffeine survey administered in clinic to assess for weekly caffeine intake

Dry Eye Disease Symptom Severity Questionnaire

a list of questions assessing common symptoms of dry eye disease

WHY IS THIS IMPORTANT?

DRY EYE DISEASE³

- One of the most common ocular surface conditions worldwide
- Increased incidence with age
- Increased incidence with prolonged digital device usage
- Increased incidence secondary to stressful social environments

Future Work

- Establish a cohort of 100 patients at DHMC that receive regular eye care who have dry eye disease
- Obtain baseline in-office tests and questionnaires
- Follow patients for 12 months with visits at either:
 - 1, 3, 6, and 12 months
 - Scheduled follow ups for regular eye care visits
- Collect subjective and objective data at each visit
- Analyze data
- Determine caffeine's impact on dry eye disease

Works Cited

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