

Standards Update for Operational Optometry

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"Medically Ready Force...Ready Medical Force"

Presenter(s)



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- CAPT McGowan enlisted in the Navy in 1988.
- He has deployed as a platoon corpsman for Operation Desert Storm, and as an optometrist at EMF Kuwait in 2006
- He is qualified as an Aerospace Optometrist and Naval Parachutist

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Learning Objectives



At the conclusion of this activity, participants will be able to:

1. State the references for vision standards.
2. Apply those standards to real-world cases.
3. Outline waiver requirements.

Operational Optometry



- Standards
- Waivers
- Selected cases

What are standards



- Visual acuity required for jobs
- Refractive limits
- Disqualifying diseases
 - ☐ Color vision
 - ☐ Progressive disease that threatens vision

Standards



■ Source for physical standards

☐ DODI

- For initial qualification. Services may have more strict standards, but not less strict.

☐ MANMED Ch 15

- Navy specific standards- entrance, retention, and special duty

Why do I need to know these?



- I am a Naval Officer
- Referrals for specific job evaluations
- Physicals for qualification
- Patients who are in special duty

Acuity



- Uncorrected acuity on a glasses wearer
- How many routinely check UCVA?

What about this patient?



What about this patient?



What about this patient?



What about this patient?



■ Jobs can depend on seemingly unrelated evaluation

- ☐ Aircrew
- ☐ Pilot
- ☐ Special Warfare applicant
- ☐ Aviation Boatswain's Mate
- ☐ Rescue Swimmer

- Manual of the Medical Department
- Chapter 15- Physical Exams
 - ☐ 1st half- qualifications for general duty
 - ☐ 2nd half- Special Duty
- There may be an eye-specific edit

- “The following list of disqualifying conditions...”
- If it’s in MANMED, it’s disqualifying.
- “Current or history of any organic disease of the eye or adnexa not specified in article 15-31 (1) through 15-31 (8)(a) which threatens vision or visual function is disqualifying.

Many Eye Standards



■ Duty

- ☐ Correct to 20/20 and 20/400

- ☐ or 20/30 and 20/100

- ☐ Or 20/40 and 20/70

■ Line Commission: Correct to 20/20 OD and OS

■ Pilot: Correct to 20/20 -0 on a Goodlite chart

What is this chart?



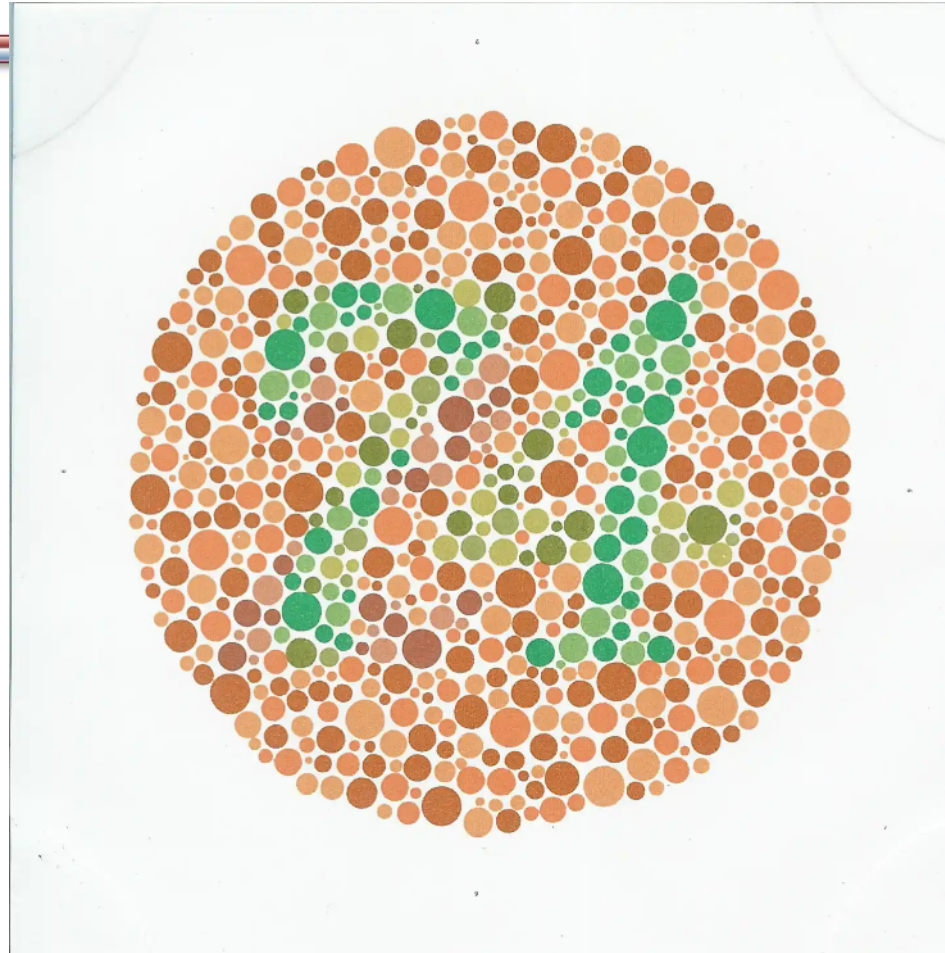
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2	V	H	C	N	O	S	R	Z	K	D	2
3	C	Z	R	H	S	K	D	N	R	O	3
4	S	V	Z	D	K	N	V	D	O	K	4
5	D	K	S	N	V	Z	S	O	K	N	5
6	H	D	K	C	R	H	C	D	R	O	6
7	N	C	K	H	D	S	N	R	O	H	7
8	K	Z	V	D	C	Z	K	C	S	N	8
9	O	H	V	C	K	D	S	R	K	N	9
10	Z	K	C	S	V	O	N	R	K	D	10

Visual acuity



- Duty
- Pilot applicants
 - ☐ Goodlite chart
 - ☐ Minimum standards
- Special Warfare Applicants
 - ☐ Minimum standards

Color Vision



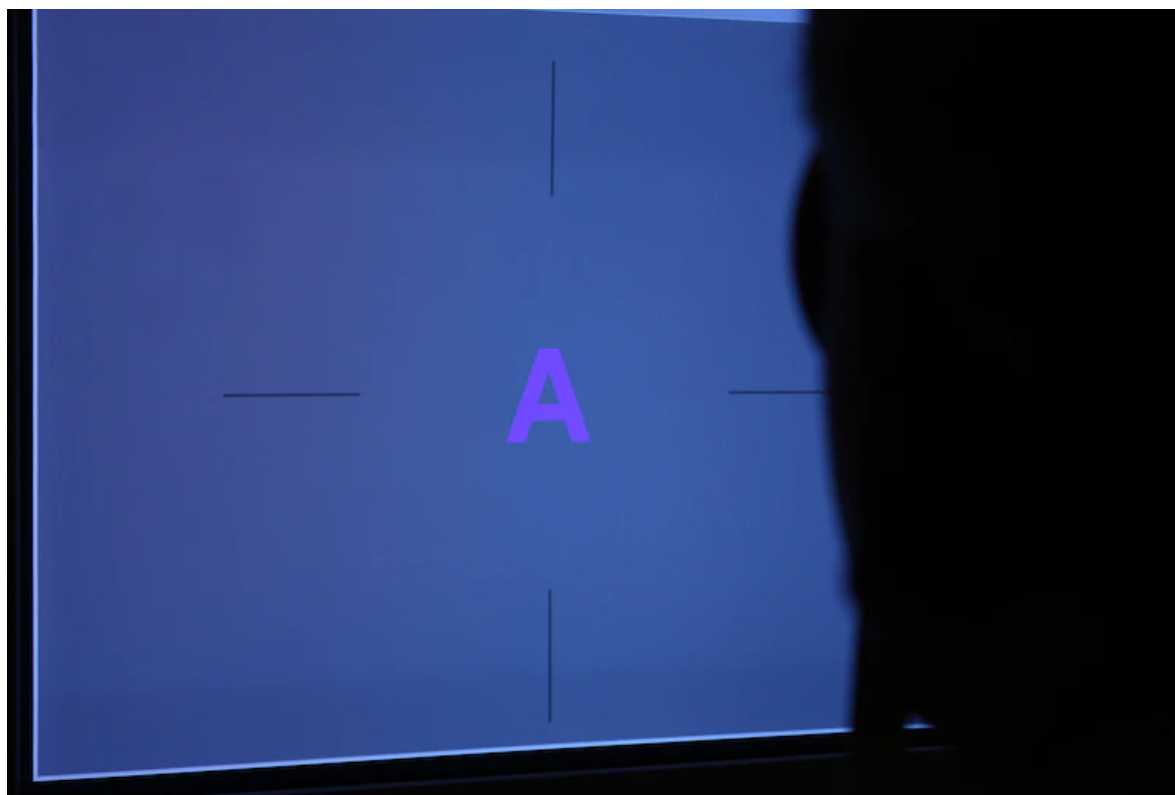
Color Vision



- Duty vs Aviation Duty
- 10/14 for general duty
- 12/14 for aviation
 - ☐ Or normal or mild on approved computer testing
- Some jobs don't require passing color testing

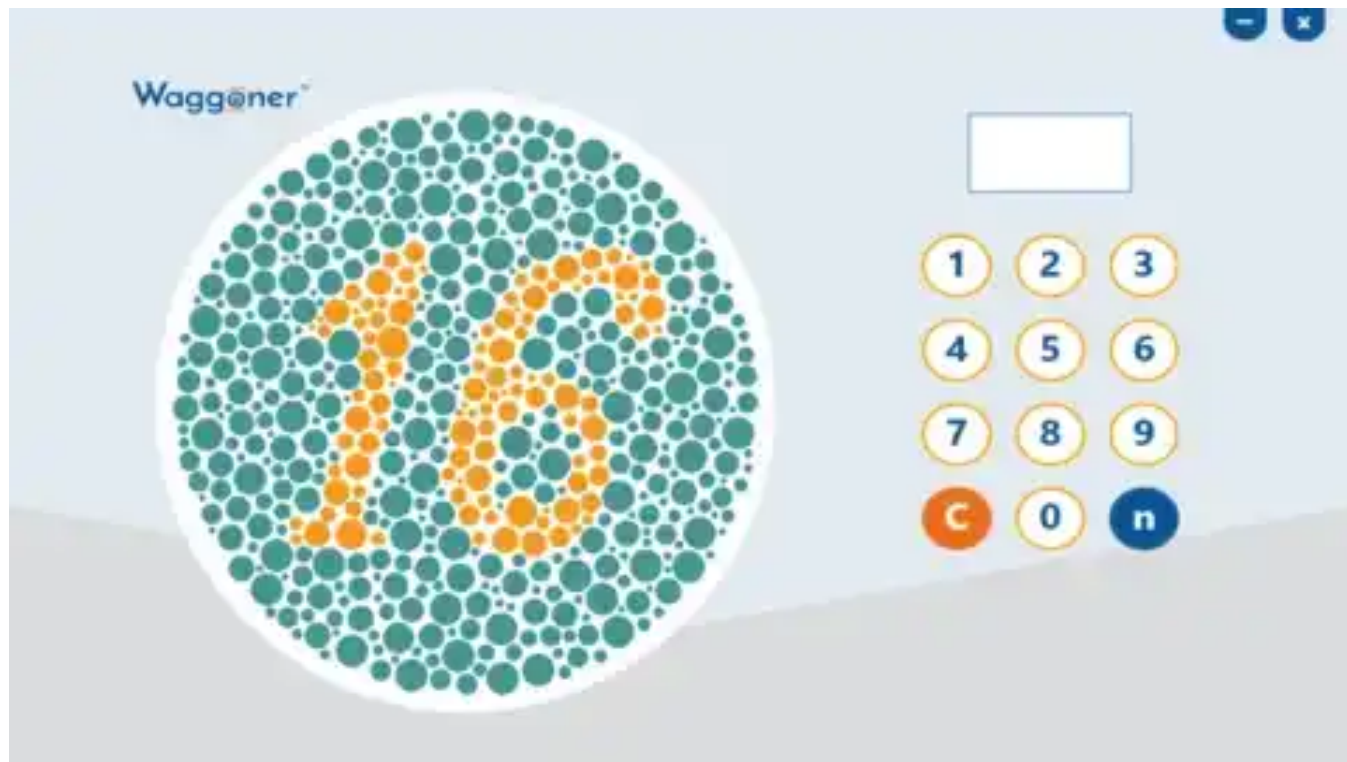
Validated Computer Tests

■ Rabin Cone Contrast Test (CCT)

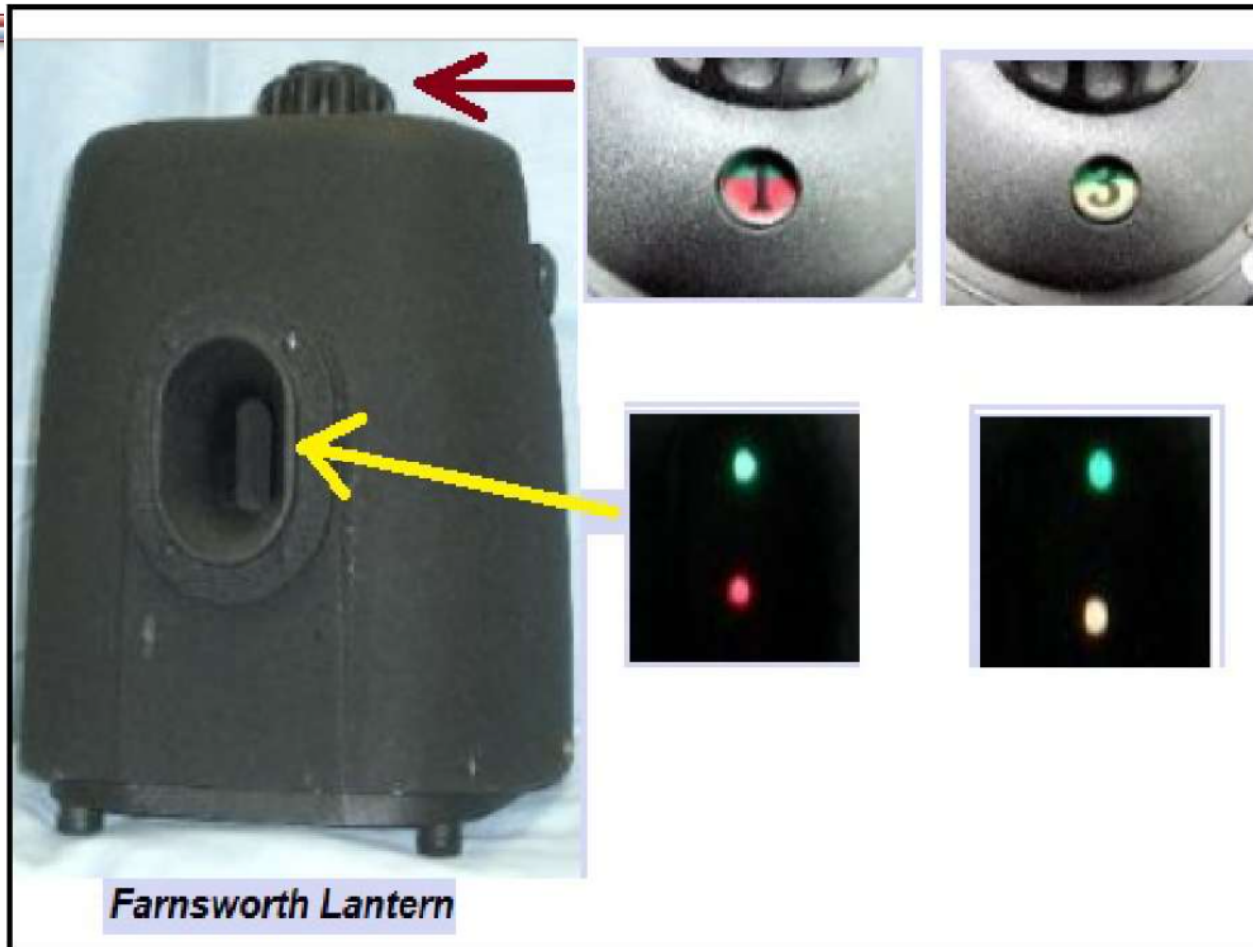


Validated Computer Tests

■ Waggoner Computer Color Vision Test (CCVT)



Farnsworth Lantern



FALANT



- Does not test for Normal Color Vision
- Tests for 'Color Safe'
- Passing Scores: 9/9 on first run
- 16/18 on second and third runs

FALANT



- LCDR Farnsworth, MSC USN 1947
- Navy and Aviation test until 2017
- All who passed prior to 2017 can still take FALANT for flight physical
- **DON'T DRMO IT!!!**

Stereo Testing



- Required for pilots and helicopter air crew
- Tested annually
- If you have a patient in these jobs who develops a condition that might affect stereo, check it out and tell the Flight Surgeon

Congenital cataracts



- May be disqualifying for special duty
- Glare testing
 - ☐ Any decrease in acuity with glare can be an issue.
 - ☐ Best to let MO know

- What is a normal IOP?
- For physical quals
 - ☐ 22 or less in each eye
 - ☐ Difference of less than 5 between eyes
- Anything outside of this requires a waiver

Refractive Surgery



■ When is a history of CRS disqualifying?

■ Accession:

- ☐ within 180 days
- ☐ Out of +8.00 to -8.00 SE Pre-op
- ☐ More than 3.00 cyl Pre-op
- ☐ Complications or unstable refractive error

Refractive Surgery



■ General Active Duty

- ☐ CD only while on con leave
- ☐ Restricted from deployment (1 mo LASIK) (3mo PRK)

■ Aviation

- ☐ Mandatory down time
- ☐ Pre-op requirements tighter for applicants

Waivers



- What happens is a patient is out of standards?
- They are disqualified
 - What does that really mean?

Scary Words



- Disqualifying or “Considered Disqualifying” CD
- “Not Physically Qualified” NPQ
- Conditions are CD
- People are NPQ

Accessions standards



- Spherical Equivalent of +8.00 to -8.00
- Will you see patients out of this range?
- YES!

“Hard Line” Standards



- Near vision has to be correctable to 20/40 in the better eye.
- If you can't read small print, you can't read instructions, study or do email without special low vision aids.
- Waivers are generally not issued.
- Retention standard is also 20/40 in better eye

“Need more info”



- Blood Pressure over 140/90
- Why are we concerned?
- Can be waived if treated and no evidence of end-organ damage.

“Need more info”



- Hx of childhood Asthma is CD for aviation applicants
- Medical reasons?
- Waivers can be granted with 5 years of not being symptomatic, PFT, (-) Methacholine challenge test

Who Grants Waivers



■ NOT MEDICAL!!!

☐ We make recommendations

■ Recruiting Command for Accessions

■ BUPERS for Navy Duty

■ CMC for USMC Duty

Waivers



- Hopefully they consider:
 - ☐ Career lifecycle
 - ☐ Potential progression
 - ☐ Investment in the Sailor
 - ☐ Medical advice on the condition

Waivers



- May include:
 - Follow up requirements
 - Annual/Routine
 - Conditions that require resubmission
-
- Accession waivers usually have no follow-up

Waiver Guide



■ Aeromedical Reference and Waiver Guide

- ☐ Has many common conditions
- ☐ What the specialists need to evaluate the case for a waiver
- ☐ Like a cookbook!
- ☐ Things can be waived even if not in ARWG!

Waivers



- What happens after waiver is approved?
- Go along with career like normal
 - ☐ Must meet provisions in waiver
 - ☐ Tell patients in advance about scary language in waiver letters

Cases

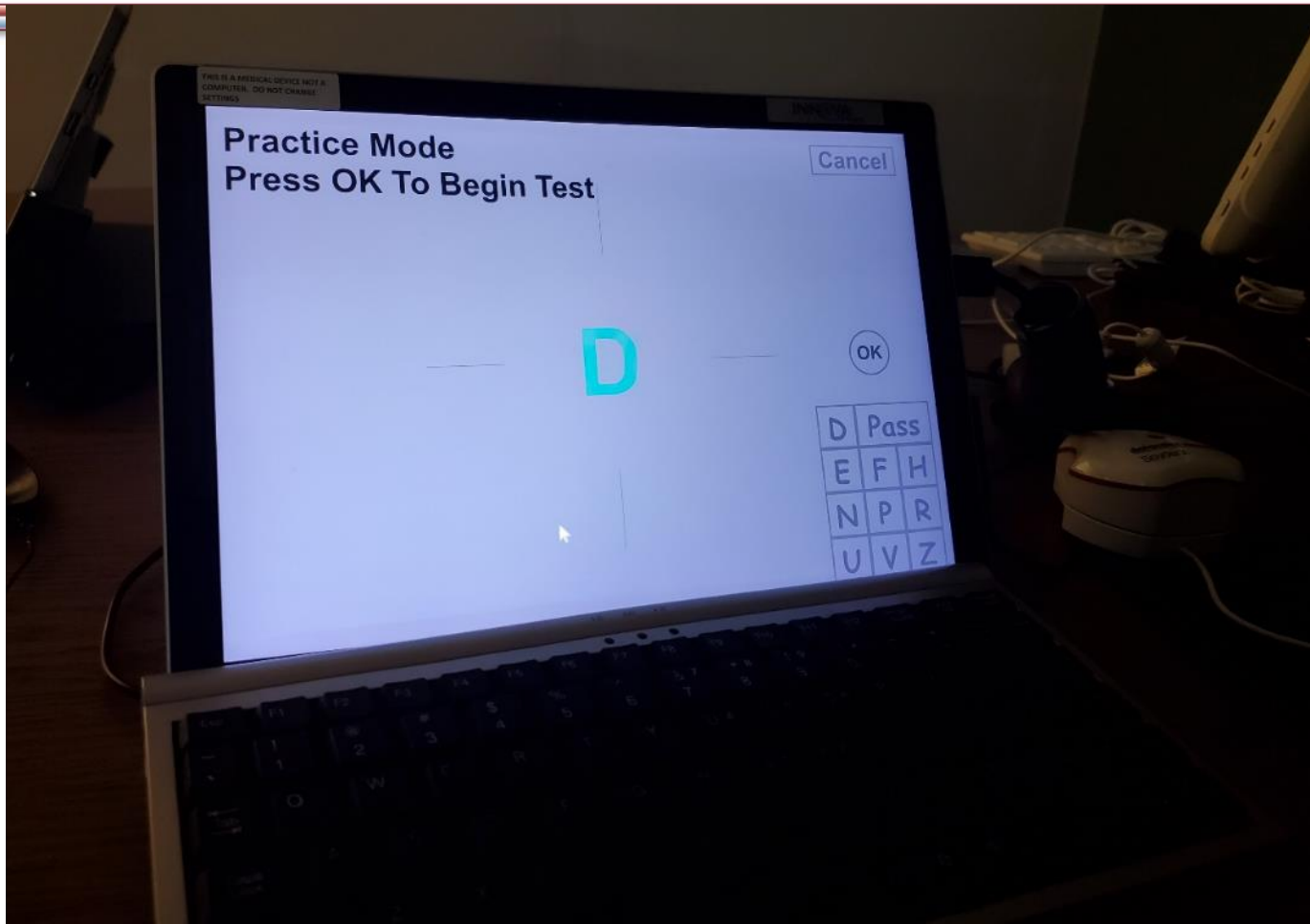


Color Vision

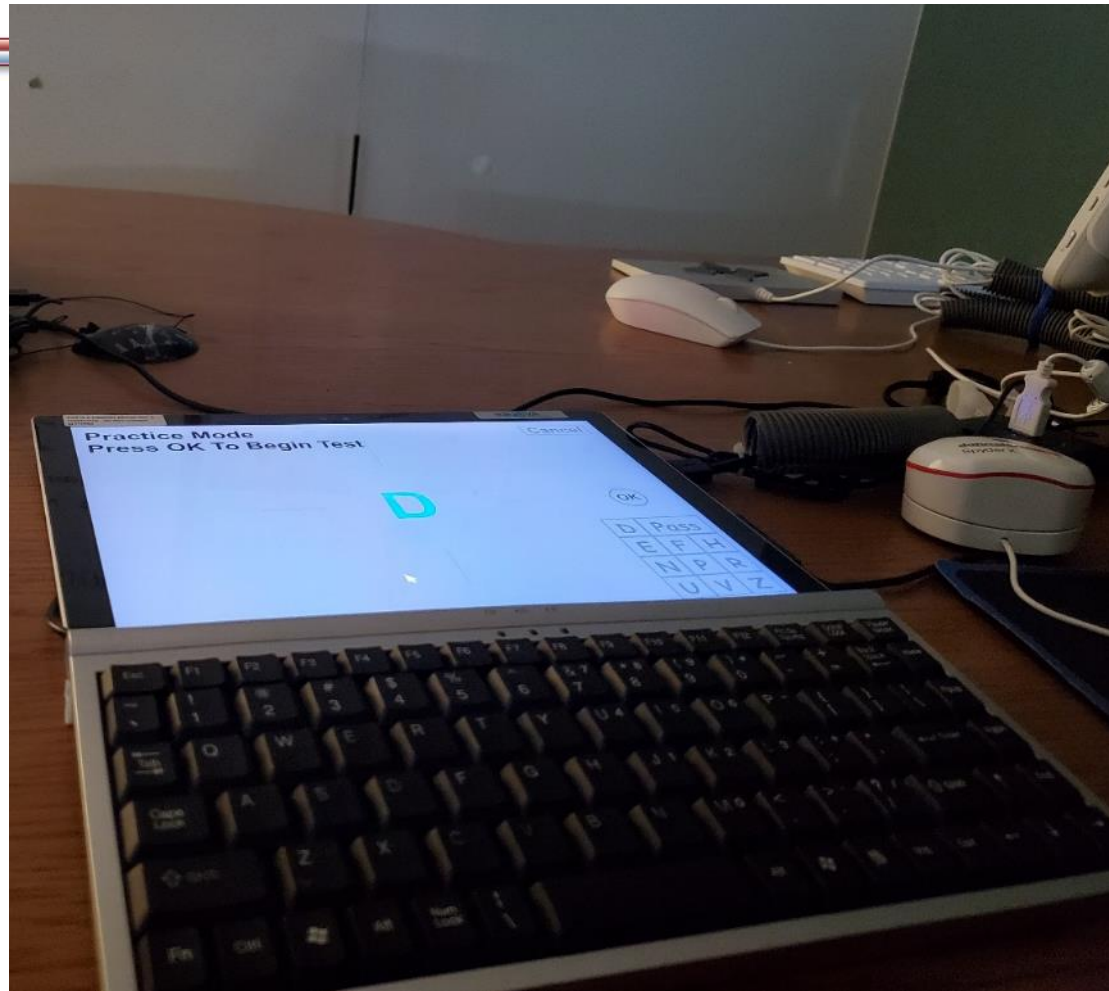


- SNA (Pilot Applicant) with hx of color vision deficiency
- Has a civilian-administered Rabin CCT with 95-100% across the board.

Rabin CCT



How he positioned the test



Properly Administered CCT



■ Red	OD 55	OS 45
■ Green	OD 95	OS 95
■ Blue	OD 100	OS 100
2 nd Try		
■ Red	OD 60	OS 20
■ Green	OD 100	OS 95
■ Blue	OD 100	OS 100

IOP Asymmetry



- Aircrew applicant with IOPs of 16 and 22
- PQ or NPQ?
- Hx of unilateral LASIK for -3.00, had thick corneas pre-operatively
- Adjusted IOPs are 16 and 18
- Waiver for IOP Asymmetry- Routine

USNA Applicant



- USNA Applicant with -3.50 cylinder
- Standard for 'programs leading to a commission' is - 3.00 cylinder
- Qualified or Disqualified?
- Any medical concerns with high cyl?
- What do you do next?
- Call BUMED standards
- Provide information for waiver

- IOP of over 22
- Why do we care?
 - Glaucoma risk
- How about thick pachymetry with normal ONH and OCT?
 - That's what waivers are for

How to Make a General Mad



- USMC General officer – annual optometry exam
- Uncorrected visual acuity?
 - ☐ Not done as part of routine exam
- This General is also a pilot
- Had to return for uncorrected VA check for flight physical

Imaging



“Medically Ready Force...Ready Medical Force”

Bietti Crystalline Dystrophy



- CD or NCD?
- Progressive disease
- This patient had observable visual field defects
- CD/WNR for aviation

Vision Therapy



- Pilot applicant with Goodlite BCVA of 20/20-4
- CD/NCD?
- Waiver?

- Did months of vision therapy
- On recheck Goodlite BCVA of 20/20-2
- CD/NCD?
- Waiver?

QUESTIONS?



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Key Takeaways



- Knowing standards is important, both as a medical provider and as a naval officer
- Some jobs have specific standards that we might normally not check, but can have large impact on a career
- Waivers are usually available if the sailor can safely do the job
- When in doubt, ask.

Reference



Manual of the Medical Department, US NAVY.

<https://www.med.navy.mil/directives/Pages/NAVMEDP-MANMED.aspx>

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3. Click on the REGISTER/TAKE COURSE tab.
 - a. If you have previously used the CEPO CMS, click login.
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