Ten Things I wish I knew Ten Years Ago about Refractive Surgery!

AFOS / Academy
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In this time of Fiscal constraint and budget challenges why are we paying for elective Surgery?

Military’s Demanding Visual Requirements

- Aviation
  - High performance flight
  - Aircraft carrier landing
  - Unique optical devices
- Special Operations
  - Diving
  - Parachuting
- Night vision devices
- Weapons scopes
- Chemical / biological personal protective gear

In Some Military Professions, Glasses and Contacts can hinder or diminish performance....

Utility / Impact of Laser Vision Correction

- Improved functional vision, other military careers are open
- Contact lens wear actually prohibited while deployed to Iraq, Afghanistan
- Lower risk for casualties
Relative Risk of Laser Vision Correction in the Military

- Only 1 DoD medical disability retirement related to LVC to date
- Medical board due to quality of vision complaints despite 20/20 uncorrected vision
- Rate of 1:137,500 or 0.0007%

Military Individuals Wearing Glasses

45% of the USAF is nearsighted
50% of the USA
46% of the USN

DoD Refractive Surgery Centers
Warfighter Refractive Surgery Program
24 total centers: 12 Army, 7 Navy, 6 Air Force

Over 500,000 Surgery Patients

Technology, Research, Instrumentation and experience all combine for better results

What I wish I knew
Ten years ago

James D. Colgain, OD
USAF Refractive Surgery
A few Things I wish I knew 10 years ago

- Understanding the Patient expectations
- Understanding Presbyopia
- Technology
- Healing

Lesson # 1
If you have a feeling you are pushing the envelope, you are...

- Too thin, Too Flat, Too Little, TKC (Thurs)
- Too “crazy”, finicky, perfectionist
- Blows off presbyopia
- Better for a different technology (CL/ICL)
- You won’t sleep well
- Too many yellow flags = A red Flag
- One eye, dense amblyope

Perfectionist: 95% clear is 5% Fuzzy

- Defining perfection
- But I used to be able to see 20/10

- NO... you used to NOT be able to see 20/400!

Trust your gut... Some Corneas could have RS but some People should NOT

No CRS Surgery Ambulances
This is “Elective” Surgery

- Refractive Stability
- Contact Lens Trial for Presbyopia
- Dry eye Tx...
- I have to Deploy....

Lesson Number Two: Refraction Still Matters

Making The Right Choices

I want 20/15

Emergency
Don’t worry, we are measuring your prescription Five different ways….

Super-vision and Superman
Do Not Exist – But some promise it!

- We are adding the precision of the laser to the imprecision and un-predictability of your healing to decrease your dependence on glasses…

Very Few Patients can cut through the BS

Cost Does not guarantee Quality
But Cost might buy better technology

- Tracking by the Laser
- Wavefront guided or optimized
- A “Buffet of Pre op testing” instruments
- Post op care is included
- Can the doctor/center afford to say no to a patient?

Lesson # 3
One Eye Sees Better
Before, during and after surgery…

- The Megapixels…
- One arm is stronger….
- Ok…let’s see which eye is better today….
- It is normal when…..
  ↨ HOWEVER
- Is one eye better ?
- Boy…there is a big difference !

Refractive and Cataract Surgery Salute
Challenge: Unequal VA

- “But the right was always my worse eye... why?”
- Dominant should be Best
- Unequal vision is expected
- Unequal vision is normal

Yeah... but I thought the weaker eye would heal slower?

34 y/o female
OD - -4.00 - 0.50 x 180
OS - -7.00 - 2.50 x 135

Right eye dominant

Lesson # 4
Presbyopia is impossible to explain

52 y/o Attorney calls you the day after Lasik....

Everything is really clear at the distance...when will my reading get better?

Presbyopia, Presbyopia

- They don’t understand!
- It affects more than reading
- Low myopes are most at risk
- High myopes start healing in plus!

Not explaining .... experiencing Presbyopia

- Wear these contacts for one week and then decide
- Over minus at the phoropter
- Tell them to read during the dilation
- If they currently wear CLs and readers...perfect!
- Old RX without Bifocal

Lesson # 5
It takes time....
It’s not clear yet!

Patient getting up from the table recently...
I can’t see clearly yet!

Are we there yet?

• I have been patient…it’s been two weeks!
• I can’t do my job effectively
• One eye is still better than the other eye
• My vision fluctuates during the day!

Are we there yet?

• Six Month Data
• Nerves in 3-6 months
• It’s not a race
• You are not your Neighbor

It takes time

20/20 is not always 20 Happy

• Unequal VA
• Glare/Halo
• Dryness
• Not Perfect
• Presbyopia

Halo’s and Glare: What’s Up

US Navy Research, USAF Research
Success defined by the Patient, not the Chart

Expectations Matter & Sometimes Matter the Most

Would this be a Success?

PRK – Day 3 – 5: Expected, managed and improving...
Healing induced uncorrected Astigmatism
Tear film Quality
Aberrations
Decentered Ablation

Lesson #7
Learn to answer questions in an Elevator and with words of confidence....

Trouble: It’s how/when you communicate

I need an Enhancement!

Right way… Wrong Way

“I see a little erosion at the edge of your flap… but it does not matter
With my microscope on high power, the healing pattern at the edge of your flap has a distinctive appearance

Scars are Lions in Movies
NOT how your cornea heals

• It’s how you say it....
• It’s when you say it...
• It’s what you promise...
• It’s communication...
• It’s Reassurance...
Lesson # 7 & 8

PRK Pearls

- Advanced Technology
- Slow and Steady
- Disappointing Early
- Lots of hand-holding
- Safer and easier

Day one PRK

Confidence Check

- One eye is better than the other
- Vision is good but will decline
- You are healing ahead of schedule!
- Everything looks perfect for a great result… keep it up…
- There is no infection and the drops are working perfectly

A Day Two Description

As the skin of the eye heals back, your vision will become very blurry… just like…..

A Day Two PRK Description

- I expect you to get worse before you get better…
- Today’s vision is exactly as I would expect it to be
- Artificial Tears may provide: “Preview of coming attractions”

Day Three PRK

Healing

“A day three description

“You will tear and burn like you have your face in a bowl of onions”
Five Day PRK Healing Pattern

This linear pattern can be vertical, horizontal, wheel-like or a heaped up area of epithelium.

PRK: One month and vision a C+

PRK: One month mild trace haze

One month and vision “See-saws”
“Good days and Bad Days and flip-flops”

Two Months: One eye is still worse than the other eye…did the brush cause that?

Higher Myope at 4 months with Night vision improvements
One year post op and Deploying

Benefits

Lesson # 9

Lasik Pearls

LASIK is:
• Advanced Technology
• Fast and rapidly healing
• Very Happy Early
• Slowly improves from very good to best
• More difficult and more invasive

Fingernail Traumatic Striae: 12 weeks

Lesson # 10

Enhancements are Tricky

• Surgery after Surgery
• Goals / Risks / Benefits / Presbyopia
• Does the patient want perfection?
• Who managed expectations?

What do you lose after Refractive Surgery....

• Glasses
• Ability to read without your glasses... to put on make up, to pull a splinter, check on fine print, etc., etc.
• Eye protection
• Eye Exams ?

Healing or Complication
Temporary or Permanent

• We can fix it…
• I am sure….
• Let me make sure
• 20 seconds longer on the “bad eye”
• 6 to 12 months best
Some voices of Happiness
Some voices of Concern

How has this helped your deployments?
Six Months
Surprise, night vision and Brush

Have Fun
Learn from my Mistakes
Make a difference on Monday!

Questions or Lunch?

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Thank You

Thank you