

# Improvements in Headaches, Migraines and Other Areas With Precision Irlen Spectral Filters

A Follow-Up Study with 134 Marines who  
have suffered TBI and/or Concussion

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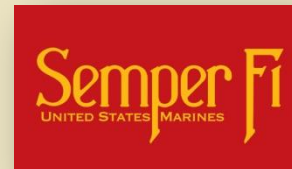


# Background

- Since March 2011, Irlen has been partnering with the Semper Fi Fund and the Wounded Warrior Project to provide Irlen Spectral Filters to military personnel experiencing chronic headaches and migraines resulting from concussion or head trauma.
- The symptoms experienced have been considered medically resistant to treatment, failing to respond to a variety of other interventions including: migraine medications, over-the-counter medications, acupuncture, chiropractic treatments, healing touch, yoga, meditation, vestibular therapy, Botox, hyperbaric, and the Alpha Stem.
- To date, Irlen has provided more than 200 Marines with Irlen Spectral Filters.

\*Data in this report represent a sample of 134 Marines for whom pre and post data have been entered and analyzed as of August 8, 2013.

Note. All differences reported in this document are significant at 95% confidence interval



# Methodology

## Pre-Post Questionnaire

- **Pre: Without Irlen Spectral Filters**

Amount and severity of difficulties experienced reported on a 0 to 5 scale (0 means “no problem” and 5 means “considerable problem”)

- **Post: Wearing Irlen Spectral Filters after 2 months to 2 yrs.**

Amount and severity of difficulties reported on a 0 to 5 scale

### Areas of Inquiry

Headaches/Migraines	General Perception
Light Sensitivity	Fatigue
Reading	Memory
Physical Symptoms	Math Computation
Emotional Symptoms	Handwriting/Copying
Attention/Concentration	Balance/Coordination
Depth Perception	Tracking Moving Objects
Driving	Listening
Sports Performance	Watching TV/Movies
Marksmanship	Playing Video Games

## Sample

### N=134 U.S. Marines

- ✓ Suffered TBI or concussion
- ✓ Report light sensitivity, headaches, and migraines that have not responded to other treatments
- ✓ Have tried one or more of the following to treat their headaches and migraines:
  - Migraine medications
  - Over-the-counter medications
  - Acupuncture
  - Chiropractic treatments
  - Healing touch
  - Yoga
  - Meditation
  - Vestibular therapy
  - Botox
  - Hyperbaric
  - Alpha Stem

# Top 10 Key Findings

- 1 Nearly 100% reduction in headaches and migraines
- 2 98% reduction in light sensitivity
- 3 80% reduction in weekly/monthly migraine medication use
- 4 99% reduction in weekly/monthly OTC medication use
- 5 88-95% reduction in other physical symptoms: eye strain (95%), dizziness (88%), nausea (91%)
- 6 54-64% reduction in emotional symptoms (not caused by PTSD): anxiety (57%), irritability/agitation (64%), anger (60%), depression (54%)
- 7 93-97% reduction in academic difficulties: reading (93%), math computation (96%), copying (94%), paper-pencil tasks (97%), computer (96%), job performance (94%)
- 8 75-98% reduction in physical difficulties: coordination (85%), balance (75%), depth perception (96%), general perception (96%), tracking moving objects (94%), marksmanship (98%)
- 9 Other improvements: sleep, driving (day and night), listening, watching TV and movies, playing video games
- 10 Areas not as dramatically improved are often impacted by PTSD, insomnia, and/or other physical injuries

# Physical Symptoms

(Average Rating 0-5)

“0” means “No Problem” “5” means “Considerable Problem”

Symptoms	Pre	Post
<b>Light Sensitivity</b>	4.85	0.12
<b>Migraines</b>	4.72	0.47
<b>Headaches</b>	4.71	0.43
Tired/Fatigued/Drained	4.53	2.14
Easily Agitated or Irritable	4.41	1.58
Short Term Memory Loss	4.38	2.79
Poor Concentration	4.27	1.29
Behavior Control/Anger	4.24	1.69
Feeling Anxious	4.17	1.79
<b>Eye Strain/Pain</b>	4.09	0.21
Slowed Thinking	3.88	1.58
Fidgety	3.73	1.36
Feeling Depressed	3.59	1.65
<b>Dizziness</b>	3.18	0.37
<b>Nausea</b>	2.54	0.23
<b>Stomachaches</b>	1.76	0.17

\*All differences are significant at 95% confidence interval

No Problem

Considerable Problem

No Problem

Considerable Problem

# Activities Causing Difficulty

(Average Rating 0-5)

“0” means “No Problem” “5” means “Considerable Problem”

Activities	Pre	Post
Reading	4.75	0.33
Sleep Problems	4.58	3.13
General Perception	4.37	0.16
Night Driving	4.35	0.11
Computer	4.17	0.17
Job Performance	4.10	0.23
Listening	3.75	0.22
Math Computation	3.73	0.16
Driving	3.55	0.13
Watching TV or Movies	3.46	0.13
Copying	3.40	0.19
Paper and Pencil Tasks	3.35	0.10
Tracking Moving Objects	3.16	0.18
Playing Video Games	2.96	0.04
Marksmanship	2.90	0.07
Depth Perception	2.81	0.11
Balance	2.77	0.70
Coordination	2.71	0.40

\*All differences are significant at 95% confidence interval

No Problem

Considerable Problem

No Problem

Considerable Problem

# Average Number of Migraines Per Month

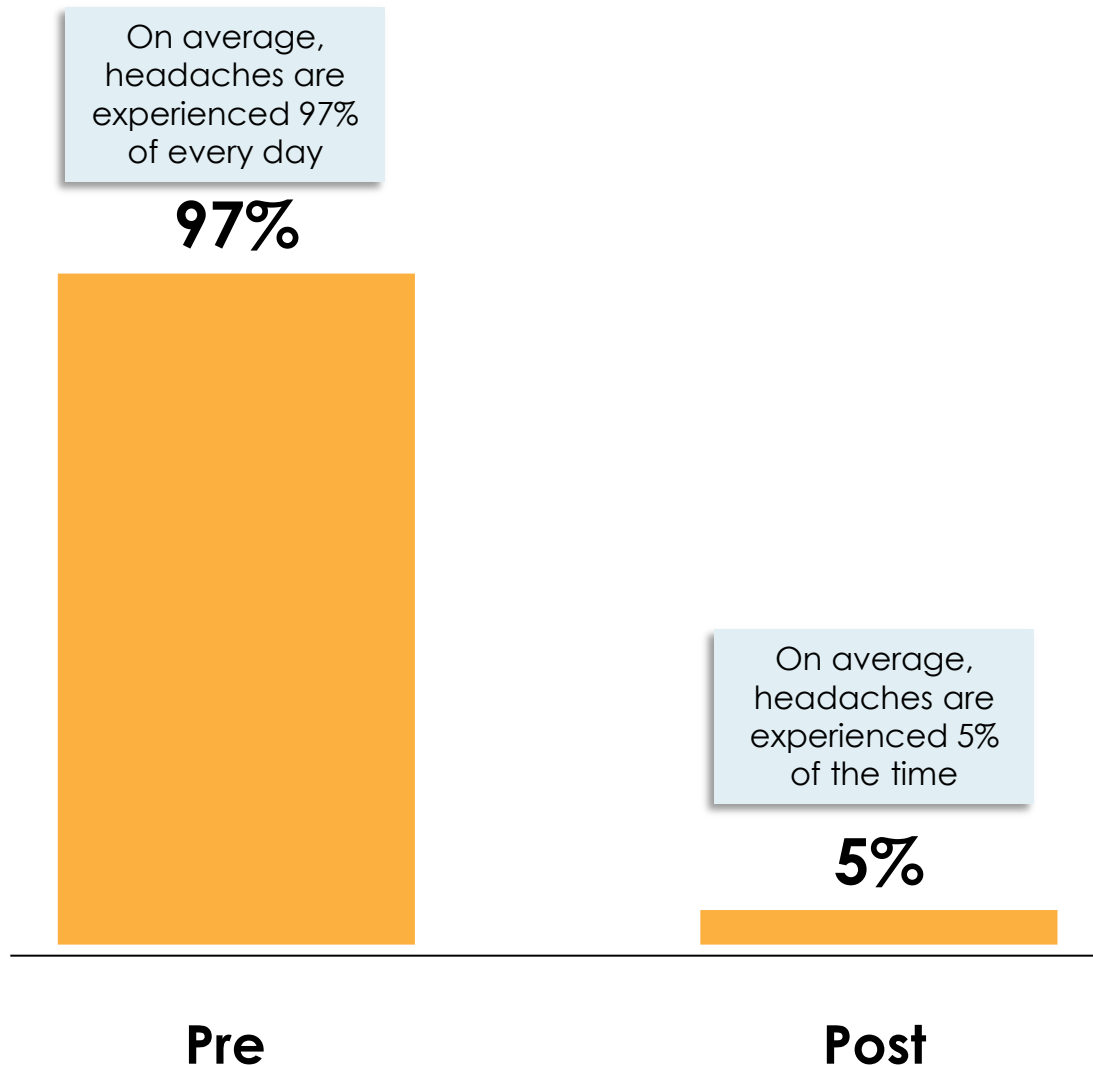
**Pre**  
**24**



**Post**  
**1**

\*All differences are significant at  
95% confidence interval

# Percent of Time Headaches are Experienced

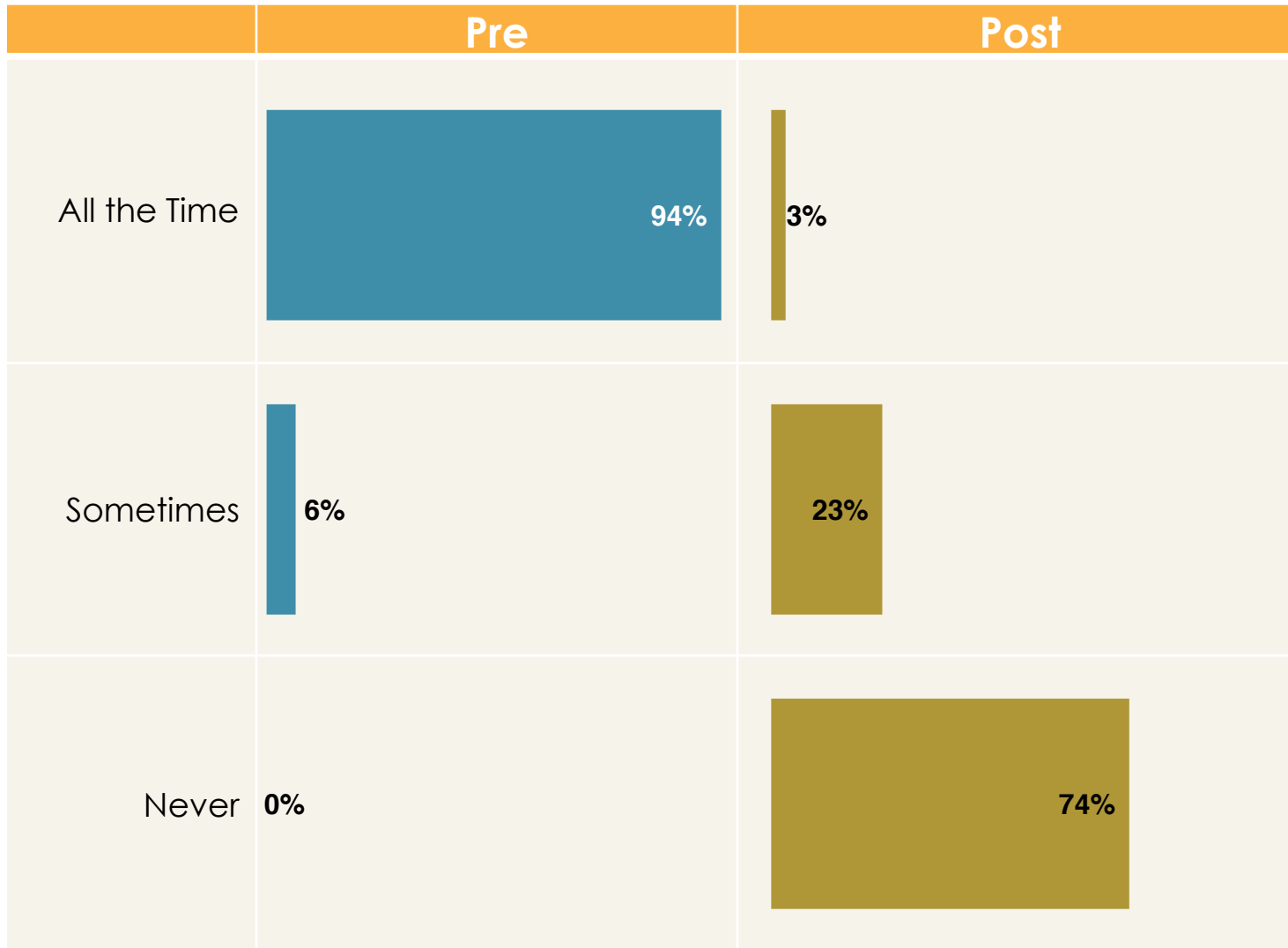


\*All differences are significant at 95% confidence interval





# Percent of Time Headaches are Experienced



**\*All differences are significant at 95% confidence interval**

# Medication Use

	Pre (Average)	Post (Average)
Number of Prescriptions	1.51	0.51
Rx Doses per week	18.32	3.60
Rx Doses per month	73.36	15.83
Number of OTC	0.42	0.08
OTC Doses per week	8.25	0.09
OTC Doses per month	37.22	0.42

**\*All differences are significant at 95% confidence interval**



# In Their Own Words



“

*They are a God send. They are amazing. I don't know how to put into words how well they work.”*

*– Sgt. Joshua Clark*

“

*They are a life saver. The Irlen Filters work wonders and I feel like a new person.”*

*– SSgt. Thomas Freestone*

“

*They make a huge difference. The change is very Dramatic. My speech has improved. My ability to pull my thoughts together is much better. I am able to read now. My moods are much more level. I am calm happy, and not blowing up. I'm not explosive. It is easier to go to sleep even though PTSD affects the number of times I wake up.”*

*– GySgt. Garath Ray*

“

*I have been in vestibular therapy because I was dizzy all the time. I asked to be re-evaluated with my Irlen Filters and I got a perfect score meaning I no longer have a problem. I no longer am angry or have outbursts. My ability to focus and concentrate is amazing. My confidence level has greatly improved.”*

*– Christopher Saunders*

“

*I am a lot calmer and more relaxed. I am not as nervous. I am doing way better.”*

*– Cpl. Edwin Lopez*

“

*In general life has gotten easier, better, and less painful.”*

*– Bradley Pierson*

“

*The changes are miraculous. He has made more improvements in the past month with his Irlen Filters than he has made in the past 4 years.”*

*– Wife of SSgt. George Hill*