

Supplementary Online Content

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eFigure. Eye Symptom Questionnaire Performed by Patient Self-Report

eTable 1. Other Eye Symptoms Recorded in the Medical Record

eTable 2. Eye-Based Distribution of Symptoms in ESQ vs MR (n=324)

eTable 3. Subject-Based Distribution of Symptoms in ESQ vs MR (n=162)

eTable 4. Univariate Logistic Regression Models for the Probability of Not Reporting (Absent or Not Documented) a Symptom in the Medical Record (MR) That Was Reported on the Eye Symptom Questionnaire (ESQ)

This supplementary material has been provided by the authors to give readers additional information about their work.

eFigure. Eye Symptom Questionnaire Performed by Patient Self-Report

Eye Symptom Questionnaire containing eight eye symptom items, including eye pain, burning, itchy, gritty sensation, eye redness, glare, sensitivity to light, and blurry vision. Symptoms were asked separately for the right and left eyes.

RIGHT EYE Study #: _____
LEFT EYE Study #: _____

GENERAL HEALTH AND VISION

1. In general, would you say your overall health is:
 - Excellent
 - Very Good
 - Good
 - Fair
 - Poor

2. At the present time, would you say your eyesight using both eyes (with glasses or contact lenses, if you wear them) is:
 - Excellent
 - Good
 - Fair
 - Poor
 - Very poor
 - Completely blind

3. How much of the time do you worry about your eyesight?
 - None of the time
 - A little of the time
 - Some of the time
 - Most of the time
 - All of the time

EYE PROBLEMS

Please answer the following questions for the **RIGHT EYE and LEFT EYE**. Answer the questions thinking of your vision as it is when corrected by any glasses or contact lenses that you usually use.

1. **In the last 7 days**, how much pain or discomfort have you had in & around your eye (ex: burning, itching, or aching)?

- | | |
|---|---|
| <p>LEFT EYE</p> <ul style="list-style-type: none"><input type="radio"/> None<input type="radio"/> Mild<input type="radio"/> Moderate | <ul style="list-style-type: none"><input type="radio"/> Severe<input type="radio"/> Very severe <p>RIGHT EYE</p> <ul style="list-style-type: none"><input type="radio"/> None |
|---|---|

- Mild
 - Moderate
- 1a. If you answered **yes** in Question 1, how often did you have the pain/discomfort?
- | | |
|--|---|
| <p>LEFT EYE</p> <ul style="list-style-type: none"> ○ Not Applicable ○ Rarely ○ Sometimes ○ Always | <p>RIGHT EYE</p> <ul style="list-style-type: none"> ○ Not Applicable ○ Rarely ○ Sometimes ○ Always |
|--|---|
2. In the last 7 days, how much of a problem did you have with a burning or stinging eye?
- | | |
|--|---|
| <p>LEFT EYE</p> <ul style="list-style-type: none"> ○ No problem at all ○ A little bit of a problem ○ Somewhat of a problem ○ Very much of a problem | <p>RIGHT EYE</p> <ul style="list-style-type: none"> ○ No problem at all ○ A little bit of a problem ○ Somewhat of a problem ○ Very much of a problem |
|--|---|
3. In the last 7 days, how much of a problem did you have with itching in or around your eye?
- | | |
|--|---|
| <p>LEFT EYE</p> <ul style="list-style-type: none"> ○ No problem at all ○ A little bit of a problem ○ Somewhat of a problem ○ Very much of a problem | <p>RIGHT EYE</p> <ul style="list-style-type: none"> ○ No problem at all ○ A little bit of a problem ○ Somewhat of a problem ○ Very much of a problem |
|--|---|
4. In the last 7 days, how much of a problem did you have with an eye that feels gritty?
- | | |
|--|---|
| <p>LEFT EYE</p> <ul style="list-style-type: none"> ○ No problem at all ○ A little bit of a problem ○ Somewhat of a problem ○ Very much of a problem | <p>RIGHT EYE</p> <ul style="list-style-type: none"> ○ No problem at all ○ A little bit of a problem ○ Somewhat of a problem ○ Very much of a problem |
|--|---|
5. In the last 7 days, how much of a problem did you have with redness in your eye?
- | | |
|--|---|
| <p>LEFT EYE</p> <ul style="list-style-type: none"> ○ No problem at all ○ A little bit of a problem ○ Somewhat of a problem ○ Very much of a problem | <p>RIGHT EYE</p> <ul style="list-style-type: none"> ○ No problem at all ○ A little bit of a problem ○ Somewhat of a problem ○ Very much of a problem |
|--|---|
6. In the last 7 days, how much of a problem do you have with glare from bright lights at any time?
- | | |
|--|---|
| <p>LEFT EYE</p> <ul style="list-style-type: none"> ○ No problem at all ○ A little bit of a problem ○ Somewhat of a problem ○ Very much of a problem | <p>RIGHT EYE</p> <ul style="list-style-type: none"> ○ No problem at all ○ A little bit of a problem ○ Somewhat of a problem ○ Very much of a problem |
|--|---|
7. In the last 7 days, how much of a problem did you have with your eye being sensitive to light?
- | | |
|--|---|
| <p>LEFT EYE</p> <ul style="list-style-type: none"> ○ No problem at all ○ A little bit of a problem ○ Somewhat of a problem ○ Very much of a problem | <p>RIGHT EYE</p> <ul style="list-style-type: none"> ○ No problem at all ○ A little bit of a problem ○ Somewhat of a problem ○ Very much of a problem |
|--|---|
8. In the last 7 days, how much of a problem did you have with blurry vision?

LEFT EYE

- No problem at all
- A little bit of a problem
- Somewhat of a problem
- Very much of a problem

RIGHT EYE

- No problem at all
- A little bit of a problem
- Somewhat of a problem
- Very much of a problem

9. In the last 7 days, how much of a problem did you have with headaches because of your vision, or because of your glasses or contact lenses?

- No problem at all
- A little bit of a problem
- Somewhat of a problem
- Very much of a problem

OTHER EYE HISTORY

1. In general, do you use contact lenses?

- Yes
- No

2. If you have eye symptoms, how long have your symptoms been occurring? Please specify duration (Ex: 2 days, 2 weeks, 2 months, etc.) and **fill in the blank space below**.

3. Please list any eye symptoms you currently have that were not asked on this questionnaire by **filling in the blank space below**:

THANK YOU FOR YOUR TIME!

eTable 1. Other Eye Symptoms Recorded in the Medical Record

Category	Patient Descriptors
Dryness	Dryness, dry eye
Tearing	Tearing, watering
Irritation	Irritation
Mucus	Mucus, crusting, sticky, drainage, discharge, eyes glued shut
Pulling	Pulling sensation
Swelling	Swelling, eyelid swelling
Numbness	Numbness/tingling
Pressure	Pressure
Eye Strain	Eye strain
Amaurosis	Amaurosis, periods with 'some parts missing' in vision
Flashes	Flashes of light
Floater(s)	Spot in vision, floater, black dots, dark gray shape, squiggly line
Eye movement	Rapid eye movements
Double vision	Double vision, eye drift
Depth problems	Problems with depth perception
Dizziness	Dizzy, lightheaded

eTable 2. Eye-Based Distribution of Symptoms in ESQ vs MR (n=324)

ESQ Symptom Report	MR Symptom Documentation				Row Totals	
	Present	Reported no eye laterality	Absent	Not Mentioned		
	freq (%)	freq (%)	freq (%)	freq (%)	freq (%)	
Blurry Vision^a						
Very much a problem	28 (8.7)	24 (7.5)	6 (1.9)	16 (5.0)	74 (23.1)	
Somewhat a problem	13 (4.1)	12 (3.7)	2 (0.6)	14 (4.4)	41 (12.8)	
A little bit of a problem	17 (5.3)	12 (3.7)	6 (1.9)	31 (9.7)	66 (20.6)	
No problem at all	6 (1.9)	25 (7.8)	38 (11.8)	71 (22.1)	140 (43.6)	
Column Totals	64 (19.9)	73 (22.7)	52 (16.2)	132 (41.1)		
Glare						
Very much a problem	0 (0.0)	3 (0.9)	0 (0.0)	55 (17.0)	58 (17.9)	
Somewhat a problem	1 (0.3)	5 (1.5)	0 (0.0)	53 (16.4)	59 (18.2)	
A little bit of a problem	0 (0.0)	2 (0.6)	0 (0.0)	55 (17.0)	57 (17.6)	
No problem at all	4 (1.2)	8 (2.5)	3 (0.9)	135 (41.7)	150 (46.3)	
Column Totals	5 (1.5)	18 (5.6)	3 (0.9)	298 (92.0)		
Eye Pain						
Very severe	8 (2.5)	0 (0.0)	0 (0.0)	3 (0.9)	11 (3.4)	
Severe	11 (3.4)	1 (0.3)	6 (1.9)	6 (1.9)	24 (7.4)	
Moderate	12 (3.7)	4 (1.2)	8 (2.5)	22 (6.8)	46 (14.2)	
Mild	8 (2.5)	0 (0.0)	31 (9.6)	22 (6.8)	61 (18.8)	
None	3 (0.9)	5 (1.5)	133 (41.0)	41 (12.7)	182 (56.2)	
Column Totals	42 (13.0)	10 (3.1)	178 (54.9)	94 (29.0)		
Eye Redness						
Very much a problem	11 (3.4)	2 (0.6)	2 (0.6)	19 (5.9)	34 (10.5)	
Somewhat a problem	9 (2.8)	1 (0.3)	2 (0.6)	16 (4.9)	28 (8.6)	
A little bit of a problem	4 (1.2)	1 (0.3)	10 (3.1)	38 (11.7)	53 (16.4)	
No problem at all	5 (1.5)	6 (1.9)	55 (17.0)	143 (44.1)	209 (64.5)	
Column Totals	29 (9.0)	10 (3.1)	69 (21.3)	216 (66.7)		
Burning^a						

Very much a problem	3 (0.9)	1 (0.3)	0 (0.0)	20 (6.2)	24 (7.5)	
Somewhat a problem	2 (0.6)	0 (0.0)	0 (0.0)	25 (7.8)	27 (8.4)	
A little bit of a problem	3 (0.9)	3 (0.9)	0 (0.0)	43 (13.4)	48 (15.0)	
No problem at all	2 (0.6)	2 (0.6)	10 (3.1)	208 (64.6)	222 (69.2)	
Column Totals	10 (3.1)	6 (1.9)	10 (3.1)	296 (91.9)		
Itching						
Very much a problem	6 (1.9)	1 (0.3)	0 (0.0)	13 (4.0)	20 (6.2)	
Somewhat a problem	0 (0.0)	1 (0.3)	1 (0.3)	20 (6.9)	22 (6.8)	
A little bit of a problem	4 (1.2)	3 (0.9)	1 (0.3)	86 (26.5)	94 (29.0)	
No problem at all	0 (0.0)	5 (1.5)	10 (3.1)	173 (53.4)	188 (58.0)	
Column Totals	10 (3.1)	10 (3.1)	12 (3.7)	292 (90.1)		
Gritty						
Very much a problem	7 (2.2)	0 (0.0)	1 (0.3)	18 (5.6)	26 (8.0)	
Somewhat a problem	6 (1.9)	0 (0.0)	1 (0.3)	18 (5.6)	25 (7.7)	
A little bit of a problem	9 (2.8)	2 (0.6)	1 (0.3)	39 (12.0)	51 (15.7)	
No problem at all	2 (0.6)	4 (1.2)	25 (7.7)	191 (59.0)	222 (68.5)	
Column Totals	24 (7.4)	6 (1.9)	28 (8.6)	266 (82.1)		
Sensitive to Light						
Very much a problem	4 (1.2)	9 (2.8)	4 (1.2)	40 (12.4)	57 (17.6)	
Somewhat a problem	5 (1.5)	2 (0.6)	1 (0.3)	42 (13.0)	50 (15.4)	
A little bit of a problem	1 (0.3)	3 (0.9)	7 (2.2)	50 (15.4)	61 (18.8)	
No problem at all	5 (1.5)	6 (1.9)	17 (5.2)	128 (39.5)	156 (48.1)	
Column Totals	15 (4.6)	20 (6.2)	29 (9.0)	260 (80.2)		
^a Missing data was present for these symptoms, percentages based on: n=321 eyes for Blurry vision; n=322 eyes for Burning						

eTable 3. Subject-Based Distribution of Symptoms in ESQ vs MR (n=162)

ESQ Symptom Report	MR Symptom Documentation			Row Totals
	Present	Absent	Not Mentioned	
	freq (%)	freq (%)	freq (%)	freq (%)
Blurry Vision^a				
Very much a problem	39 (24.4)	1 (0.6)	13 (8.1)	53 (33.1)
Somewhat a problem	21 (13.1)	0 (0.0)	11 (6.9)	32 (20.0)
A little bit of a problem	19 (11.9)	2 (1.3)	19 (11.9)	40 (25.0)
No problem at all	10 (6.3)	2 (1.3)	23 (14.4)	35 (21.9)
Column Totals	89 (55.6)	5 (3.1)	66 (41.3)	
Glare				
Very much a problem	2 (1.2)	0 (0.0)	40 (24.7)	42 (25.9)
Somewhat a problem	3 (1.9)	0 (0.0)	31 (19.1)	34 (21.0)
A little bit of a problem	1 (0.6)	0 (0.0)	33 (20.4)	34 (21.0)
No problem at all	6 (3.7)	1 (0.6)	45 (27.8)	52 (32.1)
Column Totals	12 (7.4)	1 (0.6)	149 (92.0)	
Eye Pain				
Very severe	8 (4.9)	0 (0.0)	3 (1.9)	11 (6.8)
Severe	12 (7.4)	5 (3.1)	5 (3.1)	22 (13.6)
Moderate	14 (8.6)	4 (2.5)	15 (9.3)	33 (20.4)
Mild	7 (4.3)	20 (12.4)	12 (7.4)	39 (24.1)
None	4 (2.5)	41 (25.3)	12 (7.4)	57 (35.2)
Column Totals	45 (27.8)	70 (43.2)	47 (29.0)	
Eye Redness				
Very much a problem	13 (8.0)	1 (0.6)	17 (10.5)	31 (19.1)
Somewhat a problem	10 (6.2)	2 (1.2)	12 (7.4)	24 (14.8)
A little bit of a problem	3 (1.9)	5 (3.1)	20 (12.4)	28 (17.3)
No problem at all	5 (3.1)	15 (9.3)	59 (36.4)	79 (48.8)
Column Totals	31 (19.1)	23 (14.2)	108 (66.7)	
Burning^a				
Very much a problem	4 (2.5)	0 (0.0)	18 (11.2)	22 (13.7)
Somewhat a problem	2 (1.2)	0 (0.0)	19 (11.8)	21 (13.0)
A little bit of a problem	3 (1.9)	0 (0.0)	30 (18.6)	33 (20.5)
No problem at all	2 (1.2)	2 (1.2)	81 (50.3)	85 (52.8)
Column Totals	11 (6.8)	2 (1.2)	148 (91.9)	
Itching				
Very much a problem	5 (3.1)	0 (0.0)	9 (5.6)	14 (8.6)

Somewhat a problem	1 (0.6)	1 (0.6)	16 (9.9)	18 (11.1)
A little bit of a problem	5 (3.1)	0 (0.0)	52 (32.1)	57 (35.2)
No problem at all	1 (0.6)	3 (1.9)	69 (42.6)	73 (45.1)
Column Totals	12 (7.4)	4 (2.5)	146 (90.1)	
Gritty				
Very much a problem	7 (4.3)	1 (0.6)	12 (7.4)	20 (12.3)
Somewhat a problem	6 (3.7)	0 (0.0)	14 (8.6)	20 (12.3)
A little bit of a problem	8 (4.9)	0 (0.0)	28 (17.3)	36 (22.2)
No problem at all	4 (2.5)	3 (1.9)	79 (48.8)	86 (53.1)
Column Totals	25 (15.4)	4 (2.5)	133 (82.1)	
Sensitive to Light				
Very much a problem	11 (6.8)	2 (1.2)	29 (17.9)	42 (25.9)
Somewhat a problem	5 (3.1)	0 (0.0)	25 (19.2)	30 (18.5)
A little bit of a problem	2 (1.2)	5 (3.1)	26 (16.1)	33 (20.4)
No problem at all	4 (2.5)	3 (1.9)	50 (30.9)	57 (35.2)
Column Totals	22 (13.6)	10 (6.2)	130 (80.2)	
aMissing data was present for these symptoms, percentages based on: n=160 subjects for Blurry vision and Burning				
Note: Symptom report was aggregated to the person-level (the worst level of symptom report between eyes was designated the subject-based symptom report)				

eTable 4. Univariate Logistic Regression Models for the Probability of Not Reporting (Absent or Not Documented) a Symptom in the Medical Record (MR) That Was Reported on the Eye Symptom Questionnaire (ESQ)

Blurry Visionc				
Variable	OR	95% CI	P-value	Adj. P-value
Age (per 10 years)	1.13	(0.87, 1.46)	0.362	1.000
Male (vs. Female)	1.00	(0.39, 2.59)	1.000	1.000
Patient Diagnosisa				
Non-Urgent AS (vs. Normal)b	2.64	(0.08, 88.75)	0.588	1.000
Urgent AS (vs. Normal)b	3.45	(0.11, 110.79)	0.484	1.000
Urgent AS (vs. Non-Urgent)	1.34	(0.49, 3.61)	0.569	1.000
Years in practice (per 5 years)	1.00	(0.84, 1.20)	0.981	1.000
Daily Clinic Volume (per 10 patients)	0.92	(0.71, 1.18)	0.509	1.000
Scribe Present (vs. Absent)	0.93	(0.36, 2.42)	0.886	1.000
Visit Type				
Return Visit (vs. New Visit)	5.25	(1.69, 16.30)	0.004	0.045
New Problem (vs. Return Visit)	0.97	(0.19, 4.93)	0.971	1.000
New Problem (vs. New Visit)	5.10	(0.87, 29.85)	0.071	0.707

Eye Paind				
Variable	OR	95% CI	P-value	Adj. P-value
Age (per 10 years)	0.99	(0.77, 1.27)	0.913	1.000
Male (vs. Female)	0.58	(0.21, 1.58)	0.283	1.000
Patient Diagnosisa				
Non-Urgent AS (vs. Normal)b	2.10	(0.11, 40.46)	0.626	1.000
Urgent AS (vs. Normal)b	0.72	(0.04, 12.19)	0.819	1.000
Urgent AS (vs. Non-Urgent)	0.32	(0.10, 1.08)	0.067	0.601
Years in practice (per 5 years)	0.82	(0.63, 1.08)	0.159	1.000
Daily Clinic Volume (per 10 patients)	0.87	(0.69, 1.09)	0.228	1.000
Scribe Present (vs. Absent)	0.42	(0.16, 1.14)	0.090	0.720
Visit Type				
Return Visit (vs. New Visit)	4.95	(1.62, 15.16)	0.005	0.056
New Problem (vs. Return Visit)	1.67	(0.28, 9.86)	0.573	1.000
New Problem (vs. New Visit)	8.25	(1.37, 49.57)	0.021	0.211

Eye Rednesse				
Variable	OR	95% CI	P-value	Adj. P-value
Age (per 10 years)	1.16	(0.87, 1.55)	0.326	1.000
Male (vs. Female)	2.02	(0.65, 6.23)	0.223	1.000
Patient Diagnosisa				
Non-Urgent AS (vs. Normal)b	0.48	(0.00, 52.87)	0.760	1.000
Urgent AS (vs. Normal)b	0.44	(0.01, 41.90)	0.721	1.000
Urgent AS (vs. Non-Urgent)	0.88	(0.22, 3.55)	0.854	1.000
Years in practice (per 5 years)	1.03	(0.73, 1.46)	0.852	1.000
Daily Clinic Volume (per 10 patients)	0.83	(0.65, 1.07)	0.144	1.000

Scribe Present (vs. Absent)	0.64	(0.22, 1.91)	0.426	1.000
Visit Type				
Return Visit (vs. New Visit)	3.68	(1.04, 13.10)	0.044	0.484
New Problem (vs. Return Visit)	0.18	(0.03, 1.01)	0.051	0.513
New Problem (vs. New Visit)	0.65	(0.13, 3.23)	0.605	1.000
<p>OR = Odds Ratio; CI = Confidence Interval; Adj = Adjusted; AS = Anterior Segment; pts = patients</p> <p>a Patient diagnosis was defined as the worse of the two eyes</p> <p>b Firth adjustment used due to small sample of normal diagnosis</p> <p>c Model based on the sample of 85 subjects that reported blurry vision on the ESQ in at least 1 eye, of which 25 had a negative report or no documentation in the MR</p> <p>d Model based on the sample of 66 subjects that reported eye pain on the ESQ in at least 1 eye, of which 32 had a negative report or no documentation in the MR</p> <p>e Model based on the sample of 55 subjects that reported eye redness on the ESQ in at least 1 eye, of which 32 had a negative report or no documentation in the MR</p> <p>Note: adjusted p-values are adjusted for multiple comparisons by Holm's method</p>				