

# Efficas Care™ improves asthma management and quality of life for asthmatics.

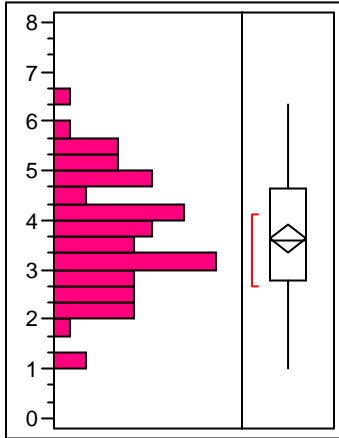
## Overall improvement in Quality of Life Scores (p<0.001)

71% reported an improvement in quality of life, mean change from baseline in MiniAQLQ = 1.5, (1-7 scale)

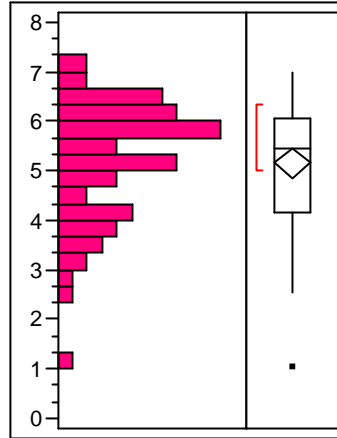
### Analysis of all subjects who completed the MiniAQLQ at baseline and Day 28

Subjects self-assessment of the negative impact of their asthma on quality of life (QOL) improved significantly after 4 weeks of using Asthma Care (p < 0.001, N = 65). 1 = all of the time, 4 = some of the time, 7 = none of the time.

**MiniAQLQ Day 1**



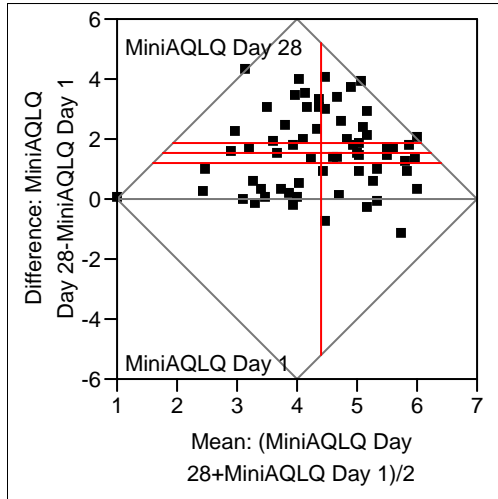
**MiniAQLQ Day 28**



At baseline, 43% of subjects reported a negative impact of asthma on QOL at least "a good bit of the time" (scores  $\leq 3$ ) and only 2% reported negative impact hardly ever or never (scores  $\geq 6$ ).

By Day 28, only 8% of subjects reported a negative impact of asthma on QOL at least "a good bit of the time" (scores  $\leq 3$ ) while 29% reported negative impact hardly ever or never (scores  $\geq 6$ ).

### Paired T-Test: MiniAQLQ Total Score Day 28 versus Day 1



| Paired t-test   |         |           |          |
|-----------------|---------|-----------|----------|
| MiniAQLQ Day 28 | 5.16    | t-Ratio   | 9.443374 |
| MiniAQLQ Day 1  | 3.63282 | DF        | 64       |
| Mean Difference | 1.52718 | Prob >  t | <.0001   |
| Std Error       | 0.16172 | Prob > t  | <.0001   |
| Upper95%        | 1.85025 | Prob < t  | 1.0000   |
| Lower95%        | 1.20411 |           |          |
| N               | 65      |           |          |
| Correlation     | 0.40541 |           |          |

**Decreased Asthma symptoms (p<0.001)**

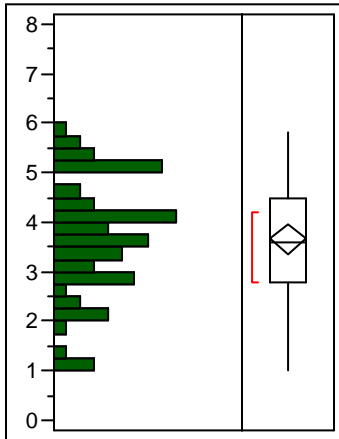
63% reported reduced asthma symptoms, mean change from baseline in MiniAQLO Symptom domain scores = 1.51, (1-7 scale).

**Asthma-Related Symptom Domain Scores.**

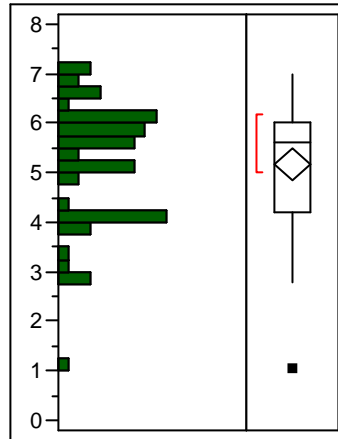
**Analysis of all subjects who completed the MiniAQLO at Baseline and Day 28.**

Subjects self-assessment of the frequency of their asthma symptoms such as wheezing, coughing and chest tightness improved significantly after 4 weeks using Asthma Care (p < 0.001, N = 65). 1 = all the time, 3 = a good bit of the time, 7 = none of the time.

**Asthma Symptoms Day 1**



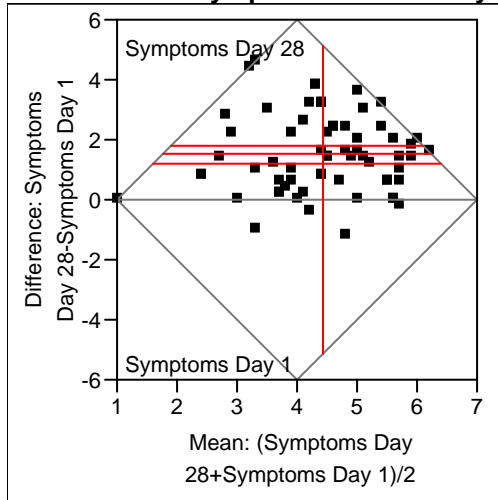
**Asthma Symptoms Day 28**



At baseline, 32% experienced asthma symptoms at least a good bit of the time (scores  $\leq 3$ ) and 0 % felt these hardly ever or never (scores  $\geq 6$ ).

By Day 28 only 8% experienced asthma symptoms at least a good bit of the time (scores  $\leq 3$ ) while 29% felt these hardly ever or never (scores  $\geq 6$ ).

**Paired T-Test: Symptoms Domain Day 28 versus Day 1**



| Paired t-test   |         |           |          |
|-----------------|---------|-----------|----------|
| Symptoms Day 28 | 5.17231 | t-Ratio   | 9.372753 |
| Symptoms Day 1  | 3.66154 | DF        | 64       |
| Mean Difference | 1.51077 | Prob >  t | <.0001   |
| Std Error       | 0.16119 | Prob > t  | <.0001   |
| Upper95%        | 1.83278 | Prob < t  | 1.0000   |
| Lower95%        | 1.18876 |           |          |
| N               | 65      |           |          |
| Correlation     | 0.4345  |           |          |

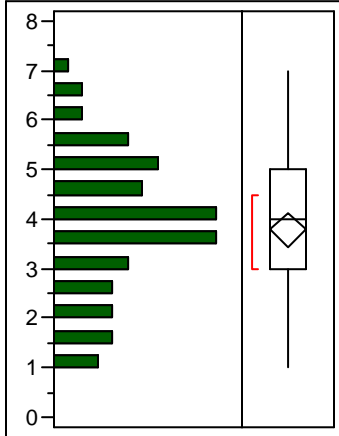
**Reduced Impact on Physical Activities (p<0.001)**

66% reported reduced limitations during moderate and strenuous physical activities, mean change from baseline in MiniAQLQ physical activities questions scores = 1.43, (1-7 scale).

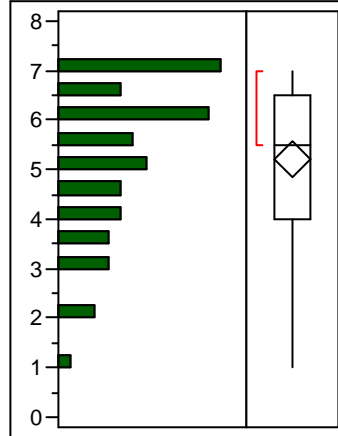
**Analysis of all subjects who completed the MiniAQLQ at Baseline and Day 28.**

Subjects self-assessment of the negative impact of their asthma on moderate and strenuous physical activities improved significantly after 4 weeks of using Asthma Care (p < 0.001, N = 65). For each question, 1 = totally limited, 4 = moderate limitation and 7 = not limited at all.

**Physical Activities Scores Day 1**



**Physical Activities Scores Day 28**

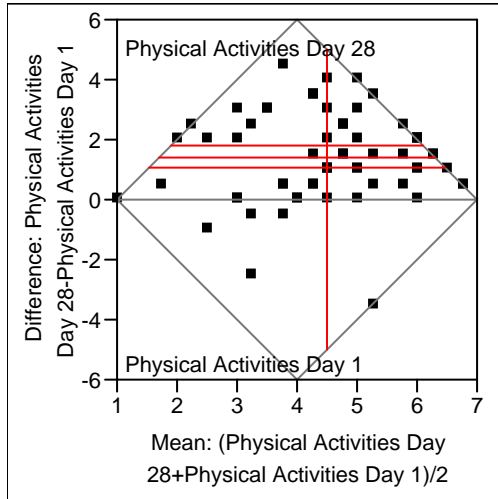


65% of subjects reported at least moderate limitation in physical activities (scores  $\leq 4$ ) and only 5% reported they were essentially not limited (scores  $\geq 6.5$ ) at baseline.

Only 25% of subjects reported at least moderate limitation in physical activities, while 28% reported they were essentially not limited by Day 28.

**MiniAQLQ Physical Activities (Questions 12 and 13)**

**Paired T-Test: Moderate and Strenuous Physical Activities Day 28 versus Day 1**



**Paired t-test**

|                            |         |           |          |
|----------------------------|---------|-----------|----------|
| Physical Activities Day 28 | 5.21538 | t-Ratio   | 7.665217 |
| Physical Activities Day 1  | 3.78462 | DF        | 64       |
| Mean Difference            | 1.43077 | Prob >  t | <.0001   |
| Std Error                  | 0.18666 | Prob > t  | <.0001   |
| Upper95%                   | 1.80366 | Prob < t  | 1.0000   |
| Lower95%                   | 1.05788 |           |          |
| N                          | 65      |           |          |
| Correlation                | 0.48134 |           |          |

**Reduced Bronchodilator Use (p<0.001)**

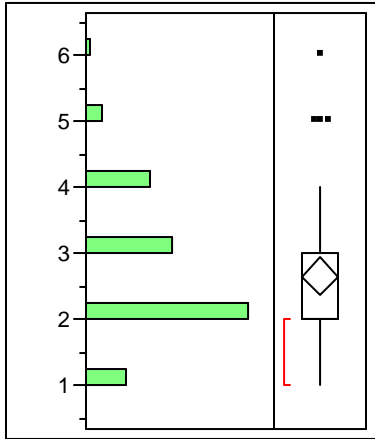
55% reported reduced bronchodilator use, mean change from baseline in ACQ question 6 = -0.8, (0-6 scale).

**Bronchodilator Use.**

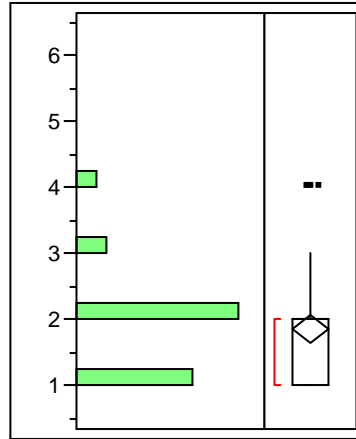
**Analysis of all subjects who completed the ACQ at Baseline and Day 28.**

Subjects self-reports on the frequency of their bronchodilator use indicate significantly reduced inhaler use after 4 weeks using Asthma Care (p < 0.001, N = 65). 1 = 1 - 2 puffs most days, 3 = 5 - 8 puffs most days, 5 = 13 - 16 puffs most days.

**ACQ Q6 D1**



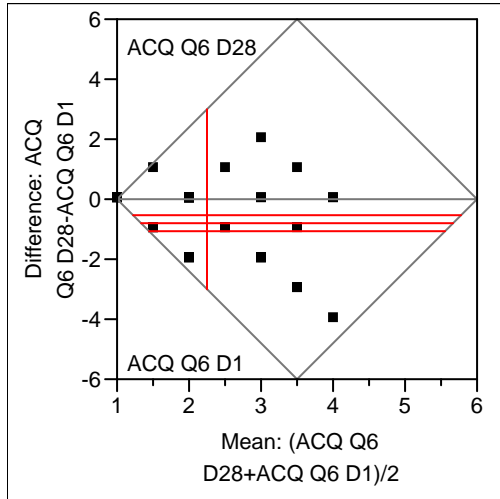
**ACQ Q6 D28**



At baseline, 23% of subjects were using 9 or more puffs per day (scores  $\geq 4$ ) and 11 % used 2 or fewer puffs per day (scores  $\leq 1$ ).

By Day 28 only 6% of subjects were using 9 or more puffs per day (scores  $\geq 4$ ) while 35% were using 2 or fewer puffs per day (scores  $\leq 1$ ).

**Paired T-test: ACQ Q6 D28 versus D1**



|                 |         |           |          |
|-----------------|---------|-----------|----------|
| ACQ Q6 D28      | 1.86154 | t-Ratio   | -5.90323 |
| ACQ Q6 D1       | 2.66154 | DF        | 64       |
| Mean Difference | -0.8    | Prob >  t | <.0001   |
| Std Error       | 0.13552 | Prob > t  | 1.0000   |
| Upper95%        | -0.5293 | Prob < t  | <.0001   |
| Lower95%        | -1.0707 |           |          |
| N               | 65      |           |          |
| Correlation     | 0.40348 |           |          |

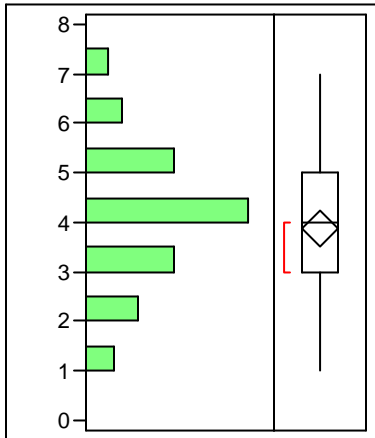
**Reduced Sleep Disturbance (p<0.001)**

77% reported they were less bothered by sleep interference, mean change from baseline in MiniAQLQ question 8 = 1.55, (1-7 scale). Among those with severe sleep disturbance at baseline, 90% reported improvement.

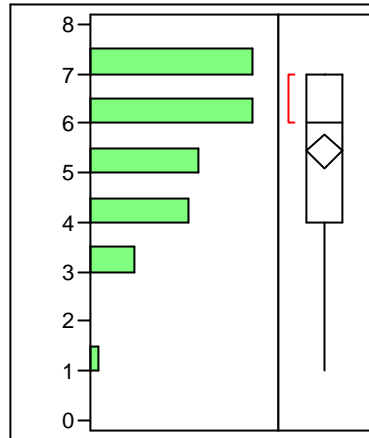
**MiniAQLQ Question 8. How much of the time during the last 2 weeks did you have difficulty getting a good night's sleep as a result of your asthma?**

Subjects self-assessment of the frequency of their asthma-related sleep disturbance improved significantly after 4 weeks using Asthma Care (p < 0.001, N = 65). 1 = all the time, 3 = a good bit of the time, 7 = none of the time.

**Sleep Disturbance Day 1**



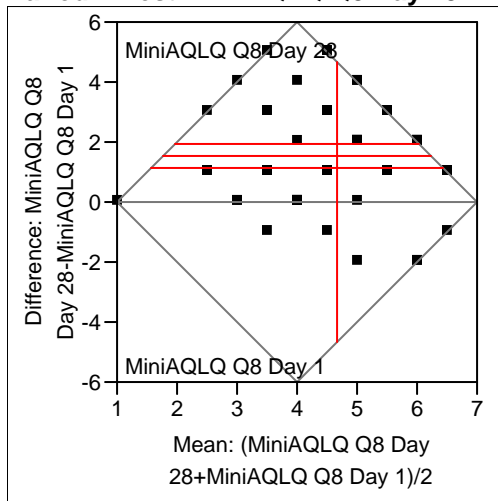
**Sleep Disturbance Day 28**



At baseline, 35% experienced sleep disturbance at least a good bit of the time (scores  $\leq 3$ ) and 12 % were bothered by this hardly ever or never (scores  $\geq 6$ ).

By Day 28 only 9% experienced asthma symptoms at least a good bit of the time (scores  $\leq 3$ ) while 55% were bothered by this hardly ever or never (scores  $\geq 6$ ).

**Paired T-Test: MiniAQLQ Q8 Day 28-MiniAQLQ Q8 Day 1**



|                    |         |           |         |
|--------------------|---------|-----------|---------|
| MiniAQLQ Q8 Day 28 | 5.44615 | t-Ratio   | 7.73073 |
| MiniAQLQ Q8 Day 1  | 3.89231 | DF        | 64      |
| Mean Difference    | 1.55385 | Prob >  t | <.0001  |
| Std Error          | 0.201   | Prob > t  | <.0001  |
| Upper95%           | 1.95538 | Prob < t  | 1.0000  |
| Lower95%           | 1.15231 |           |         |
| N                  | 65      |           |         |
| Correlation        | 0.34965 |           |         |

**Significant improvements in wheezing, coughing, chest tightness, and shortness of breath ( $p < 0.001$ )**

**61.5%** of asthma sufferers reported significant improvements in breathing (shortness of breath and wheezing).

**43%** of Asthma sufferers reported they hardly ever or never at all experienced shortness of breath, mean change from baseline in MiniAQLQ question 1 = 1.4 (1-7 scale)

**54%** of Asthma sufferers reported they hardly ever or never at all experienced wheezing, mean change from baseline in MiniAQLQ question 10 = 1.5 (1-7 scale)

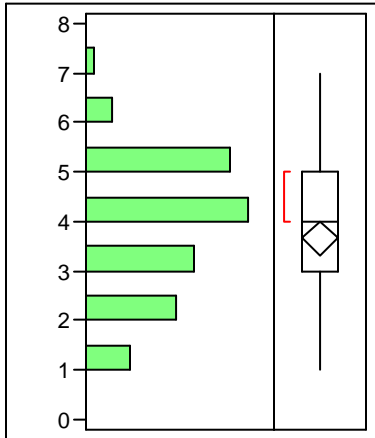
**45%** of Asthma sufferers reported they hardly ever or never at all experienced coughing, mean change from baseline in MiniAQLQ question 4 = 1.5 (1-7 scale)

**48%** of Asthma sufferers reported they hardly ever or never at all experienced chest tightness or heaviness, mean change from baseline in MiniAQLQ question 6 = 1.53 (1-7 scale)

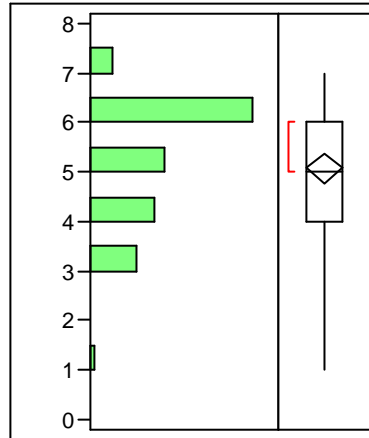
**MiniAQLQ Question 1: How much of the time during the last 2 weeks did you feel short of breath as a result of your asthma?**

Subjects self-assessment of the frequency of their asthma-related shortness of breath improved significantly after 4 weeks using Asthma Care ( $p < 0.001$ ,  $N = 65$ ). 1 = all the time, 3 = a good bit of the time, 7 = none of the time.

**Shortness of Breath Day 1**



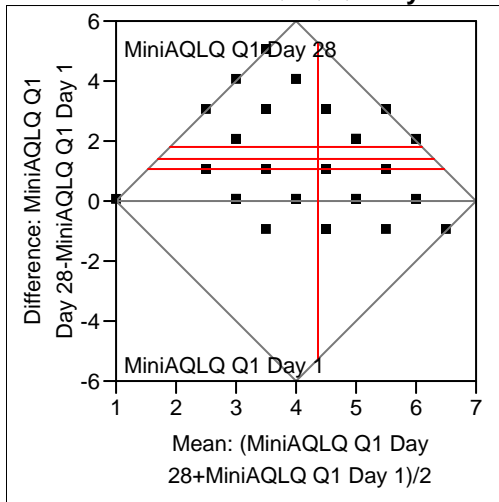
**Shortness of Breath Day 28**



At baseline, 42% experienced shortness of breath at least a good bit of the time (scores  $\leq 3$ ) and 6% felt this hardly ever or never (scores  $\geq 6$ ).

By Day 28 only 14% experienced shortness of breath at least a good bit of the time (scores  $\leq 3$ ) while 49% felt this hardly ever or never (scores  $\geq 6$ ).

**Paired T-Test: MiniAQLQ Q1 Day 28 versus Day 1**

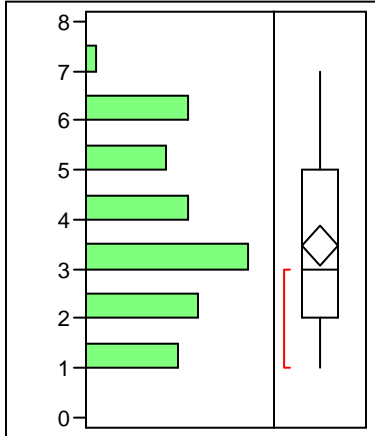


|                    |         |           |          |
|--------------------|---------|-----------|----------|
| MiniAQLQ Q1 Day 28 | 5.07692 | t-Ratio   | 7.613159 |
| MiniAQLQ Q1 Day 1  | 3.66154 | DF        | 64       |
| Mean Difference    | 1.41538 | Prob >  t | <.0001   |
| Std Error          | 0.18591 | Prob > t  | <.0001   |
| Upper95%           | 1.78679 | Prob < t  | 1.0000   |
| Lower95%           | 1.04398 |           |          |
| N                  | 65      |           |          |
| Correlation        | 0.37463 |           |          |

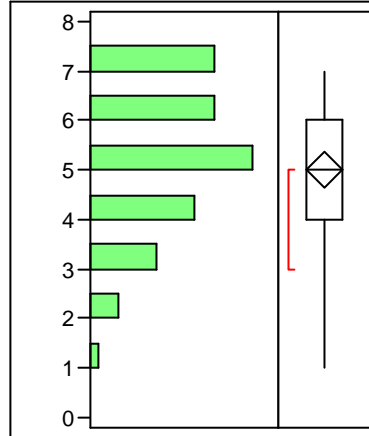
**MiniAQLQ Question 4. How much of the time during the last 2 weeks did you feel bothered by coughing?**

Subjects self-assessment of the frequency of their asthma-related coughing improved significantly after 4 weeks using Asthma Care ( $p < 0.001$ ,  $N = 65$ ). 1 = all the time, 3 = a good bit of the time, 7 = none of the time.

**Coughing Day 1**



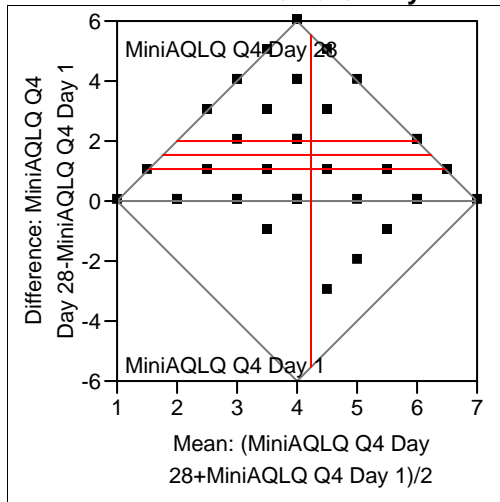
**Coughing Day 28**



At baseline, 55% experienced coughing symptoms at least a good bit of the time (scores  $\leq 3$ ) and 17% were bothered hardly ever or never (scores  $\geq 6$ ).

By Day 28 only 17% experienced coughing symptoms at least a good bit of the time (scores  $\leq 3$ ) while 40% were bothered hardly ever or never (scores  $\geq 6$ ).

**Paired T-Test: MiniAQLQ Q4 Day 28 versus Day 1**



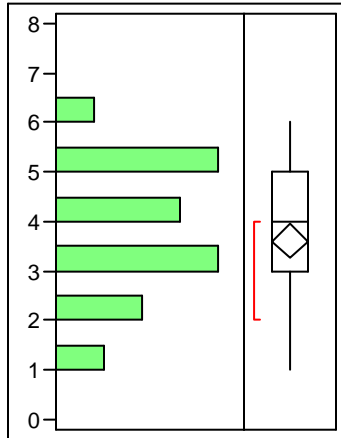
|                    |         |           |          |
|--------------------|---------|-----------|----------|
| MiniAQLQ Q4 Day 28 | 5.01538 | t-Ratio   | 6.780635 |
| MiniAQLQ Q4 Day 1  | 3.47692 | DF        | 64       |
| Mean Difference    | 1.53846 | Prob >  t | <.0001   |
| Std Error          | 0.22689 | Prob > t  | <.0001   |
| Upper95%           | 1.99173 | Prob < t  | 1.0000   |
| Lower95%           | 1.0852  |           |          |
| N                  | 65      |           |          |
| Correlation        | 0.34729 |           |          |



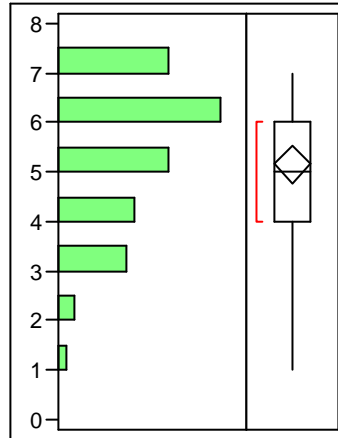
**MiniAQLQ Question 6. How much of the time during the last 2 weeks did you experience a feeling of chest tightness or chest heaviness?**

Subjects self-assessment of the frequency of their asthma-related feelings of chest tightness or heaviness improved significantly after 4 weeks using Asthma Care ( $p < 0.001$ ,  $N = 65$ ). 1 = all the time, 3 = a good bit of the time, 7 = none of the time.

**Chest tightness Day 1**



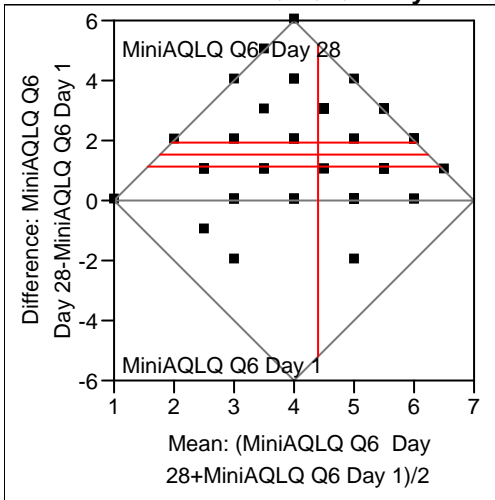
**Chest tightness Day 28**



At baseline, 48% experienced chest tightness at least a good bit of the time (scores  $\leq 3$ ) and 6% felt this hardly ever or never (scores  $\geq 6$ ).

By Day 28 only 17% experienced chest tightness at least a good bit of the time (scores  $\leq 3$ ) while 49% felt this hardly ever or never (scores  $\geq 6$ ).

**Paired T-Test: MiniAQLQ Q6 Day 28-MiniAQLQ Q6 Day 1**

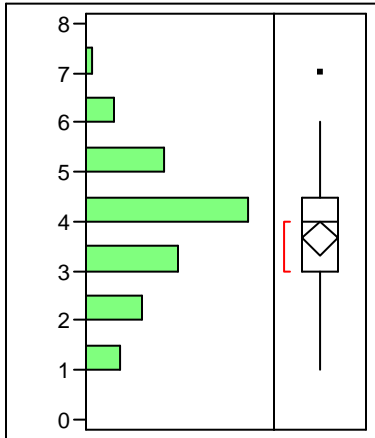


|                    |         |           |          |
|--------------------|---------|-----------|----------|
| MiniAQLQ Q6 Day 28 | 5.15385 | t-Ratio   | 7.940667 |
| MiniAQLQ Q6 Day 1  | 3.61538 | DF        | 64       |
| Mean Difference    | 1.53846 | Prob >  t | <.0001   |
| Std Error          | 0.19374 | Prob > t  | <.0001   |
| Upper95%           | 1.92551 | Prob < t  | 1.0000   |
| Lower95%           | 1.15141 |           |          |
| N                  | 65      |           |          |
| Correlation        | 0.41418 |           |          |

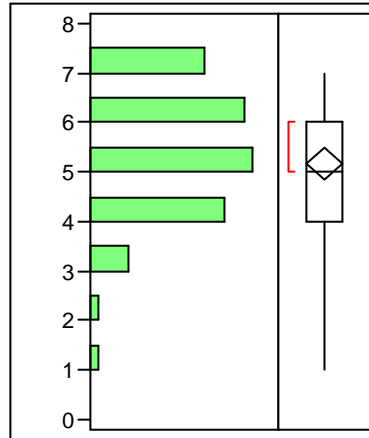
**MiniAQLQ Question 10: How much of the time during the last 2 weeks did you experience a wheeze in your chest?**

Subjects self-assessment of the frequency of their asthma-related wheezing improved significantly after 4 weeks using Asthma Care ( $p < 0.001$ ,  $N = 65$ ). 1 = all the time, 3 = a good bit of the time, 7 = none of the time.

**Wheezing Day 1**



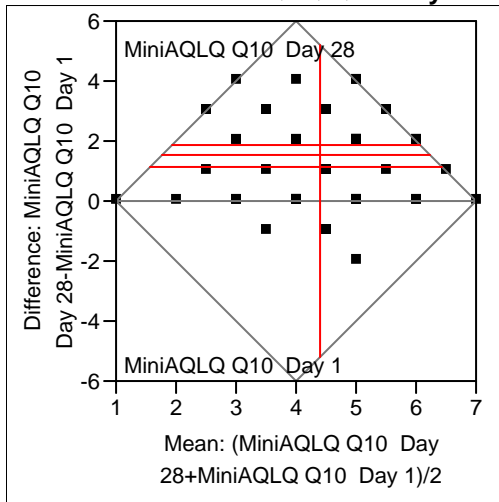
**Wheezing Day 28**



At baseline, 40% experienced wheezing at least a good bit of the time (scores  $\leq 3$ ) and 8% felt this hardly ever or never (scores  $\geq 6$ ).

By Day 28 only 9% experienced wheezing at least a good bit of the time (scores  $\leq 3$ ) while 43% felt this hardly ever or never (scores  $\geq 6$ ).

**Paired T-Test: MiniAQLQ Q10 Day 28-MiniAQLQ Q10 Day 1**

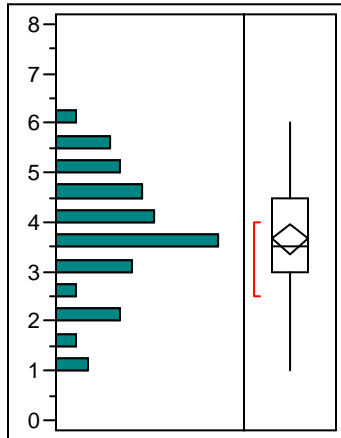


|                     |         |           |          |
|---------------------|---------|-----------|----------|
| MiniAQLQ Q10 Day 28 | 5.16923 | t-Ratio   | 8.392831 |
| MiniAQLQ Q10 Day 1  | 3.66154 | DF        | 64       |
| Mean Difference     | 1.50769 | Prob >  t | <.0001   |
| Std Error           | 0.17964 | Prob > t  | <.0001   |
| Upper95%            | 1.86657 | Prob < t  | 1.0000   |
| Lower95%            | 1.14882 |           |          |
| N                   | 65      |           |          |
| Correlation         | 0.43043 |           |          |

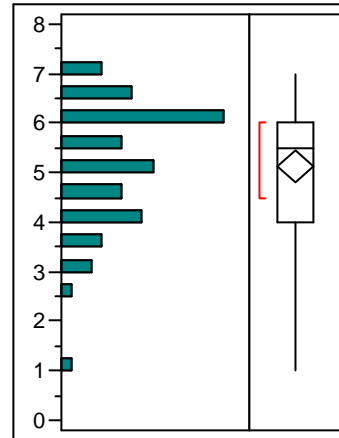
**MiniAQLQ Questions 1 & 10 combined: shortness of breath and wheezing**

Subjects self-assessment of the negative impact of their asthma on breathing (shortness of breath and wheezing) improved significantly after 4 weeks of using Asthma Care ( $p < 0.001$ ,  $N = 65$ ). 1 = all of the time, 4 = some of the time, 7 = none of the time.

**Breathing Difficulty Q1 & 10 Day 1**



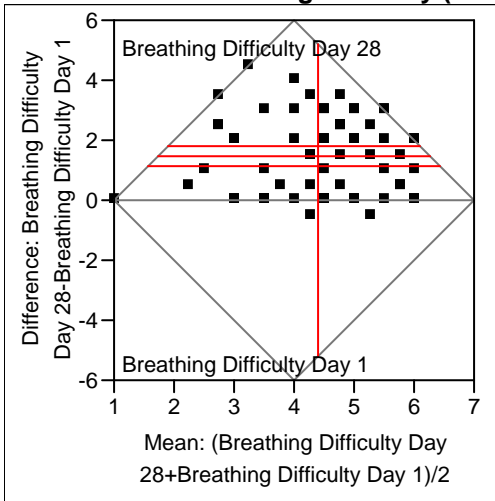
**Breathing Difficulty Q1 & Q10 Day 28**



At baseline, 31% of subjects reported a negative impact of asthma on breathing at least "a good bit of the time" (scores  $\leq 3$ ) and only 3% reported negative impact hardly ever or never (scores  $\geq 6$ ).

By Day 28, only 8% of subjects reported a negative impact of asthma on breathing at least "a good bit of the time" (scores  $\leq 3$ ) while 42% reported negative impact hardly ever or never (scores  $\geq 6$ ).

**Paired T-Test: Breathing Difficulty (MiniAQLQ Questions 1 & 10)**



|                             |         |           |          |
|-----------------------------|---------|-----------|----------|
| Breathing Difficulty Day 28 | 5.12308 | t-Ratio   | 9.064335 |
| Breathing Difficulty Day 1  | 3.66154 | DF        | 64       |
| Mean Difference             | 1.46154 | Prob >  t | <.0001   |
| Std Error                   | 0.16124 | Prob > t  | <.0001   |
| Upper95%                    | 1.78365 | Prob < t  | 1.0000   |
| Lower95%                    | 1.13942 |           |          |
| N                           | 65      |           |          |
| Correlation                 | 0.4581  |           |          |