### Supplemental Appendix 2
Alert Protocols - Lung Transplant Monitoring

| Vital Signs Alerts              | Alert Value | Score | Contact Patient? | Email Clinic? | Phone Clinic? |
|--------------------------------|-------------|-------|------------------|---------------|---------------|
| Heart rate - High              | 120         | 4     | Yes              | Yes           | Yes           |
| Heart rate - Slightly high     | 96          | 3     | Yes              | Yes           | Yes           |
| Heart rate - Slightly low      | 60          | 3     | Yes              | Yes           | Yes           |
| Heart rate - Low               | 50          | 4     | Yes              | Yes           | Yes           |
| Body temperature - High        | 101         | 4     | Yes              | Yes           | Yes           |
| Body temperature - Slightly high| 99         | 3     | Yes              | Yes           | Yes           |
| Body temperature - Slightly low| 96          | 1     |                   |               |               |
| Body temperature - Low         | 80          | 3     | Yes              | Yes           | Yes           |
| Blood sugar level - High       | 300         | 4     | Yes              | Yes           | Yes           |
| Blood sugar level - Slightly high| 200        | 1     |                   |               |               |
| Blood sugar level - Slightly low| 80          | 1     |                   |               |               |
| Blood sugar level - Low        | 60          | 4     | Yes              | Yes           | Yes           |
| Weight change - High           | 5           | 3     |                   |               | Yes           |
| Weight change - Slightly high  | NA          | 0     |                   |               |               |
| Weight change - Slightly low   | NA          | 0     |                   |               |               |
| Weight change - Low            | -5          | 3     |                   |               | Yes           |
| Lack of physical activity      | 500         | 2     |                   |               |               |
| Systolic blood pressure - High | 180         | 4     | Yes              | Yes           | Yes           |
| Systolic blood pressure - Slightly high | 140     | 1     |                   |               |               |
| Systolic blood pressure - Slightly low | 100  | 1     |                   |               |               |
| Systolic blood pressure - Low  | 90          | 4     | Yes              | Yes           | Yes           |
| Diastolic blood pressure - High| 100         | 4     | Yes              | Yes           | Yes           |
| Diastolic blood pressure - Slightly high | 90    | 1     |                   |               |               |
| Diastolic blood pressure - Slightly low | 70   | 1     |                   |               |               |
| Diastolic blood pressure - Low | 60          | 3     | Yes              | Yes           | Yes           |
| Oxygen Saturation - Low        | 80          | 4     | Yes              | Yes           | Yes           |
| Oxygen Saturation - Slightly low| 90          | 3     | Yes              | Yes           | Yes           |
| FEV1 (L) - Slightly low        | -3%         | 2     | Yes              | Yes           | Yes           |
| FEV1 (L) - Low                 | -4%         | 4     | Yes              | Yes           | Yes           |
| FEF 25-75 (L/s) - Slightly low | -3%         | 2     | Yes              | Yes           | Yes           |
| FEF 25-75 (L/s) - low          | -4%         | 4     | Yes              | Yes           | Yes           |
**Supplemental Appendix 2**  
Alert Protocols - Lung Transplant Monitoring

| Lung Specific Symptoms               | Alert Value | Score | Contact Patient? | Email Clinic? | Phone Clinic? |
|--------------------------------------|-------------|-------|-------------------|---------------|---------------|
| Possible GERD - Heartburn            | Yes         | 3     | Yes               | Yes           | Yes           |
| Possible GERD - Belching             | Yes         | 3     | Yes               | Yes           | Yes           |
| Possible GERD - Sore throat          | Yes         | 3     | Yes               | Yes           | Yes           |
| Possible GERD - Waterbrash           | Yes         | 3     | Yes               | Yes           | Yes           |
| Possible GERD - Inflamed gums        | Yes         | 3     | Yes               | Yes           | Yes           |
| Possible GERD - Regurgitation        | Yes         | 3     | Yes               | Yes           | Yes           |
| Possible GERD - Bad breath           | Yes         | 3     | Yes               | Yes           | Yes           |
| Cough                                | Yes         | 2     | Yes               | Yes           | Yes           |
| No cough                             | Yes         | 0     |                   |               |               |
| Cough when breathing deeply          | Yes         | 2     | Yes               | Yes           | Yes           |
| Cough when active                    | Yes         | 2     | Yes               | Yes           | Yes           |
| Cough while at rest                  | Yes         | 3     | Yes               | Yes           | Yes           |
| Cough after eating                   | Yes         | 2     | Yes               | Yes           | Yes           |
| Unable to cough up phlegm            | Yes         | 1     | Yes               | Yes           | Yes           |
| No Phlegm                            | Yes         | 0     |                   |               |               |
| With Phlegm                          | Yes         | 0     |                   |               |               |
| Clear phlegm                         | Yes         | 0     |                   |               |               |
| Yellow phlegm                        | Yes         | 2     | Yes               | Yes           | Yes           |
| Green phlegm                         | Yes         | 2     | Yes               | Yes           | Yes           |
| Brown phlegm                         | Yes         | 2     | Yes               | Yes           | Yes           |
| Bloody phlegm                        | Yes         | 4     | Yes               | Yes           | Yes           |
| White phlegm                         | Yes         | 0     |                   |               |               |
| Sticky phlegm                        | Yes         | 0     |                   |               |               |
| Thin phlegm                          | Yes         | 0     |                   |               |               |
| Thick phlegm                         | Yes         | 1     | Yes               | Yes           | Yes           |
| Shortness of breath                  | Yes         | 10    | Yes               | Yes           | Yes           |
| Chest congestion, tightness          | Yes         | 4     | Yes               | Yes           | Yes           |
| Difficulty breathing                 | Yes         | 4     | Yes               | Yes           | Yes           |
| No difficulty breathing              | Yes         | 0     |                   |               |               |

| Wound Care                           | Alert Value | Score | Contact Patient? | Email Clinic? | Phone Clinic? |
|--------------------------------------|-------------|-------|-------------------|---------------|---------------|
| Wound has healed                     | Yes         | 0     |                   |               |               |
| Wound has not healed                 | Yes         | 0     |                   |               |               |
| Wound reopened                       | Yes         | 5     | Yes               | Yes           | Yes           |
| Wound is draining                    | Yes         | 1     | Yes               | Yes           | Yes           |
| Wound is not draining                | Yes         | 0     |                   |               |               |
| a small amount of fluid is draining  | Yes         | 1     |                   |               |               |
| A medium amount of fluid is draining | Yes         | 2     | Yes               | Yes           | Yes           |
| A lot of fluid is draining           | Yes         | 4     | Yes               | Yes           | Yes           |
| Fluid is odorous                     | Yes         | 5     | Yes               | Yes           | Yes           |
| Yellowish red fluid                  | Yes         | 4     | Yes               | Yes           | Yes           |
| Bright red fluid                     | Yes         | 4     | Yes               | Yes           | Yes           |
| Green fluid                          | Yes         | 4     | Yes               | Yes           | Yes           |
| Clear yellow fluid                   | Yes         | 1     | Yes               | Yes           | Yes           |
| Bloody fluid                         | Yes         | 8     | Yes               | Yes           | Yes           |
## Supplemental Appendix 2
### Alert Protocols - Lung Transplant Monitoring

| Other Symptoms                                      | Alert Value | Score | Contact Patient? | Email Clinic? | Phone Clinic? |
|-----------------------------------------------------|-------------|-------|------------------|---------------|---------------|
| Patient feels worse than yesterday                  | Yes         | 1     | Yes              | Yes           | Yes           |
| Patient feels the same as yesterday                  | Yes         | 0     |                  |               |               |
| Patient feels better than yesterday                  | Yes         | 0     |                  |               |               |
| Nausea                                              | Yes         | 2     | Yes              | Yes           | Yes           |
| Vomiting                                            | Yes         | 4     | Yes              | Yes           | Yes           |
| Diarrhea                                            | Yes         | 5     | Yes              | Yes           | Yes           |
| Yellow skin, eyes                                   | Yes         | 5     | Yes              | Yes           | Yes           |
| Headaches                                           | Yes         | 2     | Yes              |               |               |
| Body aches                                          | Yes         | 2     | Yes              |               |               |
| Increased fatigue                                   | Yes         | 2     | Yes              |               |               |
| Difficulty swallowing                               | Yes         | 4     | Yes              | Yes           | Yes           |
| No difficulty swallowing                            | Yes         | 0     |                  |               |               |
| Calf Pain, redness, or swelling                     | Yes         | 4     | Yes              | Yes           | Yes           |
| No calf pain redness, or swelling                   | Yes         | 0     |                  |               |               |
| Right calf                                          | Yes         | 1     | Yes              |               |               |
| Left Calf                                           | Yes         | 1     | Yes              |               |               |
| Fluid retention or swelling                         | Yes         | 4     | Yes              | Yes           | Yes           |
| No fluid retention or swelling                      | Yes         | 0     |                  |               |               |
| Swelling in feet                                    | Yes         | 1     | Yes              |               |               |
| Swelling in legs                                    | Yes         | 4     | Yes              | Yes           | Yes           |
| Swelling in hands                                   | Yes         | 4     | Yes              | Yes           | Yes           |
| Swelling in arms                                    | Yes         | 4     | Yes              | Yes           | Yes           |
| Swelling in other area                              | Yes         | 1     | Yes              |               |               |
| Blurred Vision                                      | Yes         | 4     | Yes              |               |               |

| Infection                                           | Alert Value | Score | Contact Patient? | Email Clinic? | Phone Clinic? |
|-----------------------------------------------------|-------------|-------|------------------|---------------|---------------|
| Fever                                               | Yes         | 5     | Yes              | Yes           | Yes           |
| Increasing frequency of urination                    | Yes         | 4     | Yes              | Yes           | Yes           |
| Painful urination                                   | Yes         | 4     | Yes              | Yes           | Yes           |
| Burning on urination                                | Yes         | 4     | Yes              | Yes           | Yes           |
| Cannot empty bladder                                | Yes         | 3     | Yes              |               |               |
| Other urinary symptom                               | Yes         | 3     | Yes              |               |               |
| Odorous urine                                       | Yes         | 1     |                  |               | Yes           |
| Normal urine color                                  | Yes         | 0     |                  |               |               |
| Abnormal urine color                                | Yes         | 1     |                  |               | Yes           |
| Pain or tenderness at the transplant site           | Yes         | 5     | Yes              | Yes           | Yes           |
| Chills                                              | Yes         | 5     | Yes              | Yes           | Yes           |
| Flu-like symptoms                                   | Yes         | 7     |                  | Yes           | Yes           |
| Upper respiratory symptoms                          | Yes         | 4     | Yes              | Yes           | Yes           |
## Supplemental Appendix 2
### Alert Protocols - Lung Transplant Monitoring

| Pain and Medication                                           | Alert Value | Score | Contact Clinic? | Email Clinic? | Phone Clinic? |
|---------------------------------------------------------------|-------------|-------|-----------------|---------------|---------------|
| Taking pain medication                                       | Yes         | 0     |                 |               |               |
| Not taking pain medication                                   | Yes         | 0     |                 |               |               |
| Taking over-the-counter pain medicine                        | Yes         | 0     |                 |               |               |
| Taking medicine prescribed by my doctor                      | Yes         | 0     |                 |               |               |
| Taking pain medication every 2-4 hours                        | Yes         | 1     | Yes             | Yes           |               |
| Taking pain medication every 4-8 hours                        | Yes         | 0     |                 |               |               |
| Taking pain medication every 8-12 hours                       | Yes         | 0     |                 |               |               |
| Taking pain medication every 12-24 hours                      | Yes         | 0     |                 |               |               |
| Taking pain medication every 24+ hours                        | Yes         | 0     |                 |               |               |
| Patient reports that pain is interfering with daily routine   | Yes         | 2     |                 | Yes           | Yes           |
| Patient feels the pain medication is effective                | Yes         | 1     |                 |               |               |
| Patient feels they need more pain medication                 | Yes         | 3     | Yes             |               |               |
| Not taking pain medication - No refills                       | Yes         | 5     | Yes             | Yes           |               |
| Not taking pain medication - fears of dependence              | Yes         | 2     |                 | Yes           |               |
| Not taking pain medication - Other                            | Yes         | 2     |                 | Yes           |               |
| Not taking pain medication - Not in pain                      | Yes         | 0     |                 |               |               |
| Not taking pain medication - can handle the pain              | Yes         | 1     |                 |               |               |
| Medication Change - Unable to take                            | Yes         | 4     |                 | Yes           | Yes           |
| Medication Change - Added                                     | Yes         | 3     |                 |               | Yes           |
| Medication Change - Removed                                  | Yes         | 3     |                 |               | Yes           |
| Current Pain 0-6                                              | Yes         | 0     |                 |               |               |
| Current Pain 7                                                | Yes         | 0     |                 |               |               |
| Current Pain 8-9                                              | Yes         | 7     |                 |               | Yes           |
| Current Pain 10                                               | Yes         | 10    | Yes             | Yes           | Yes           |
| Highest Pain 0-6                                             | Yes         | 0     |                 |               |               |
| Highest Pain 7-10                                            | Yes         | 3     |                 | Yes           |               |

| End of Day items                                              | Alert Value | Score | Contact Clinic? | Email Clinic? | Phone Clinic? |
|---------------------------------------------------------------|-------------|-------|-----------------|---------------|---------------|
| Fluid intake < 2 cups per day                                 | Yes         | 2     |                 | Yes           | Yes           |
| Fluid intake 2-4 cups per day                                 | Yes         | 1     |                 |               |               |
| Fluid intake 5-7 cups per day                                 | Yes         | 0     |                 |               |               |
| Fluid intake > 7 cups per day                                 | Yes         | 0     |                 |               |               |
| Urinating < 3 times per day                                   | Yes         | 1     |                 |               | Yes           |
| Urinating 3-6 times per day                                   | Yes         | 0     |                 |               |               |
| Urinating > 6 times per day                                   | Yes         | 1     |                 |               |               |
| Eating at least 3 meals per day                               | Yes         | 0     |                 |               |               |
| Not eating 3 meals per day                                    | Yes         | 1     |                 |               |               |
| Finishing 0-25% of each meal                                  | Yes         | 1     |                 |               |               |
| Finishing 25-50% of each meal                                 | Yes         | 1     |                 |               |               |
| Finishing 50-75% of each meal                                 | Yes         | 0     |                 |               |               |
| Finishing 75-100% of each meal                                | Yes         | 0     |                 |               |               |
| Snacks between meals                                          | Yes         | 0     |                 |               |               |
| Not snacking between meals                                    | Yes         | 0     |                 |               |               |
| Not Carrying pedometer all day                                | Yes         | 0     |                 |               |               |
| Carrying pedometer all day                                    | Yes         | 0     |                 |               |               |
| Bowel movement in past 3 days                                 | Yes         | 0     |                 |               |               |
| No bowel movement in the last 3 days                          | Yes         | 3     |                 | Yes           | Yes           |
| Patient Enrollment complete                                   | Yes         | 1     |                 |               |               |
| Non Symptom Alert                                             | Yes         | 1     |                 |               |               |
| New Patient Photo                                             | Yes         | 1     |                 |               | Yes           |
| Medication Alert                                              | Yes         | 5     |                 | Yes           | Yes           |