

- b. Current isohemagglutinin titer information for A and/or B blood type antigens reported in UNetSM.
- (iii) Candidate is greater than or equal to 1 year of age, and meets all of the following:
- a. Is ~~l~~isted prior to age 2;
 - b. Is ~~l~~isted at Status 1A or 1B;
 - c. Has ~~C~~urrent isohemagglutinin titer level(s) less than or equal to 1:4 for A and/or B blood type antigens reported in UNetSM; and,
 - d. Has *not* received treatments (such as plasmapheresis or transfusions) within the prior 30 days that could potentially alter spontaneously produced titer values may have reduced titer values to 1:4 or less.

~~Following allocation for all born transplant candidates who have blood types that are compatible with donors, hearts will be allocated locally first and then within zones in the sequence described in Policy 3.7.10, by heart status category to Status 1 pediatric heart candidates less than one year up to less than two years of age at time of listing identified as being compatible with any eligible to receive a heart from any blood type donor. (typically based on having Eligibility is defined as age \leq 6 months 1 year old or recipient candidate isohemagglutinin titers less than or equal to 1:4 for A and/or B blood type antigens) for infants \geq 6 months old \geq 1 year old who have a blood type that is incompatible with the donor's blood type if the candidate is been listed with the blood type "Z" designation as willing to accept a heart from a donor of any blood type. The isohemagglutinin titer used for recipient selection modifiers, such as plasmapheresis or transfusions, within 30 days. When isohemagglutinin titers in recipient candidates \geq 6 months old \geq 1 year old cannot be accurately determined due to modifiers received within 30 days that could potentially manipulate titer values, then status Z listing the candidate shall not be designated as eligible to accept donor hearts of any blood type under this policy used. Following allocation for born pediatric candidates who are eligible to accept donor hearts of any blood type "Z" incompatible pediatric heart candidates, less than one year of age, hearts will be allocated, locally first and then within zones in the sequence described in Policy 3.7.10, to patients listed *in utero*.~~

NOTE #2 *Additional amendments) (indicated by double strikethrough and double underline formatting) to Policy 3.7.8 (ABO Typing for Heart Allocation) shall be approved and implemented pending distribution of appropriate notice and programming in UNetSM. Approved by the Executive Committee on August 10, 2009)*

NOTE #1: *The amendments to Policy 3.7.8 (ABO Typing for Heart Allocation) shall be approved and implemented pending distribution of appropriate notice and programming in UNetSM. (Approved at the Executive Committee Meeting on December 18, 2007).)*

3.7.8.1 Heart Allocation to Pediatric Candidates Less Than 2 Years of Age Willing Eligible to Accept a Donor Heart of Any Blood Type. A center may specify on the waiting list that a candidate is eligible to accept a heart from any blood type donor if the eligibility requirements set forth in Policy 3.7.8 are met.

Anti-A and/or Anti-B titers must be reported:

- (i) At time of listing (except for *in utero* candidates);
- (ii) Every 30 days after listing (all eligible born candidates);
- (iii) At transplant; and
- (iv) In the event of graft loss or death within one year after transplant (for all candidates transplanted with other than blood type identical or compatible donor hearts).

Listing and transplant outcomes for candidates determined to be eligible under this policy will be monitored on a quarterly basis by a subcommittee of the Pediatric Transplantation Committee, including at least two non-Committee members with analytical and/or other professional expertise in this area of medicine, and reported to the Pediatric Committee. Transplant programs that list candidates for receipt of donor hearts of any blood type shall be required to provide information requested for review by the subcommittee, including, for example, autopsy reports.

~~**Heart Allocation to Pediatric Candidates Registered Under Blood Type "Z". Heart Allocation to Pediatric Candidates < 2 Years of Age Willing to Accept a Donor Heart of Any Blood Type.** For pediatric candidates less than two years of age at time of listing who meet the eligibility requirements set forth in Policy 3.7.8, including *in utero* candidates for whom blood type is unknown, centers may specify on the Waiting List those candidates who will accept a heart from a donor of any blood type; the blood type "Z" designation may be added as a suffix to the actual blood type (e.g., "AZ") of a pediatric patient less than one year up to less than two years of age, or used alone if actual blood type is not known for *in utero* candidates. Patients older than two years of age may be listed with the type "Z" designation suffix upon an application by his/her transplant physician(s) providing justification to the applicable Regional Review Board. Timing of the review of these cases shall be prospective. Anti-A and anti-B titers shall must be reported at the times of listing, (except for *in utero* candidates), monthly after listing (all eligible candidates), at transplant and in the event of graft loss or death within one year after transplant (for candidates transplanted with other than blood type identical or compatible donor hearts). Listing and transplant outcomes for status Z candidates determined to be eligible under this policy will be monitored on a quarterly basis by a subcommittee of the Pediatric Transplantation Committee, including at least two non-Committee members with analytical and/or other professional expertise in this area of medicine, and reported to the Pediatric Committee. Transplant programs that list candidates with the blood type Z designation for receipt of donor hearts of any blood type shall be required to provide information requested for review by the subcommittee, including, for example, autopsy reports.~~

NOTE: *The amendments to Policy 3.7.8.1 (Heart Allocation to Pediatric Candidates Eligible to Accept a Donor Heart of Any Blood Type ABO Typing for Heart Allocation) shall be approved and implemented pending distribution of appropriate notice and programming in UNetSM. (Approved at the Executive Committee Meeting on December 18, 2007)*

3.7.8.2 ABO Typing for Lung Allocation. Candidates who have the identical blood type as the donor and are awaiting an isolated lung transplant will be allocated thoracic organs before candidates who have a compatible (but not identical) blood type with that of the donor and are awaiting an isolated lung transplant

3.7.9 Time Waiting for Thoracic Organ Candidates. Calculation of the time a candidate has been waiting for a thoracic organ transplant begins with the date and time the candidate is first registered as active on the Waiting List. Waiting time will not be accrued by candidates awaiting a thoracic organ transplant while they are registered on the Waiting List as inactive, except as specified in Policy 3.7.9.3 (Waiting Time Accrual for Lung Candidates Less than 12 Years of Age). When time waiting is used for thoracic organ allocation, a candidate will receive a preference over other candidates who have accumulated less waiting time within the same status/priority category. Where applicable, waiting time accrued by a candidate for a single thoracic organ transplant (heart or single lung) while waiting on the Waiting List also may be accrued for a second thoracic organ, when it is determined that the candidate requires a multiple thoracic organ (heart-lung or double lung) transplant. In addition, where applicable, waiting time accrued by a candidate for a multiple thoracic organ transplant while waiting on the Waiting List may be transferred to the Waiting List for a single thoracic organ transplant.

3.7 - 18

November 17, 2009

NOTE: The amendments to Policy 3.7.9 (Time Waiting for Thoracic Organ Candidates) (stricken text; double-underlined text) shall be implemented pending distribution of appropriate notice and programming in UNetSM of Policy 3.7.6.2 (Candidates Age 0-11). (Approved at the June 22-23, 2009 Board of Directors Meeting.)

3.7.9.1 Waiting Time Accrual for Heart Candidates. Candidates listed as a Status 1A, 1B, or 2 will accrue waiting time within each heart status; however, waiting time accrued while listed at a lower status will not be counted toward heart allocation if the candidate is upgraded to a higher status. For example, a candidate who is listed as a Status 2 for 3 months and then is upgraded to a Status 1A for one week will accrue one week of waiting time as a Status 1A. If the candidate is downgraded to a Status 2 for another 3 weeks, then the candidate will have 4 months of total accrued time. If the candidate subsequently is upgraded for another week as a Status 1A, then the candidate's Status 1A waiting time will be 2 weeks.

3.7.9.2 Waiting Time Accrual for Lung Candidates Age 12 and Older Following Implementation of Lung Allocation Scores Described in Policy 3.7.6 ~~Waiting time accrued by lung candidates age 12 and older at the time of implementation of the Lung Allocation Score described in Policy 3.7.6 and thereafter will be used to determine priority in lung allocation among candidates with Lung Allocation Scores of zero. In the event that multiple candidates receive identical Lung Allocation Scores greater than zero, whether computed Lung Allocation Scores or assigned Lung Allocation Scores that have been approved by the Lung Review Board pursuant to an exceptional case request, and have identical priority for a lung offer considering all other allocation factors, then priority among those candidates will be determined by their total active waiting time accrued.~~

*** BOLD language that appears in Policy 3.7.9.2 was approved by the Executive Committee on March 11, 2005, and was implemented on May 4, 2005.*

In the event that multiple candidates receive identical computed Lung Allocation Scores greater than zero, and have identical priority for a lung offer considering all other allocation factors, then priority among those candidates will be determined by the earliest date and time of each candidate's most recent update in UNetSM by the member, of variables used in calculation of the Lung Allocation Score. (For example, if Candidate A and Candidate B have an identical Lung Allocation Score and identical priority for a lung offer, and Candidate A's data variables were most recently updated by the transplant center on May 1, 2005, and Candidate B's data variables were most recently updated by the transplant center on June 1, 2005, then Candidate A would receive higher priority for the lung offer because his most recent data update by the transplant center occurred first and the same set of data variables has been used to calculate Candidate A's Lung Allocation Score for the longest amount of time.)

In the event that multiple candidates receive identical assigned Lung Allocation Scores pursuant to an exceptional case request, and have identical priority for a lung offer considering all other allocation factors, then priority among those candidates will be determined by the earliest date and time that each candidate's most recent approval of that Lung Allocation Score by the Lung Review Board was entered in UNetSM (For example, if Candidate X and Candidate Y have identical Lung Allocation Scores assigned to them by the Lung Review Board and identical priority for a lung offer, and the approval for Candidate X's score was entered in UNetSM on June 1, 2005, and the approval for Candidate Y's score was entered in UNetSM on July 1, 2005, then Candidate X would receive

higher priority for the lung offer because his most recent Lung Allocation Score was approved and entered in UNetSM first.)

Candidates that receive a Lung Allocation Score of zero due to missing or expired candidate variables as described in Policy 3.7.6.3 will be screened from the lung match following notification of the listing center, and will not receive isolated lung offers. Upon the entry or update of previously missing or expired candidate variables as described in Policy 3.7.6.3, those candidates will appear on the lung match.

Candidates awaiting a lung transplant on the Waiting List that are placed at inactive status by the listing center will be subject to the same requirements for updating candidates' clinical data as indicated in Policy 3.7.6.3 and Policy 3.7.6.4 and will not accrue any waiting time while at inactive status.

NOTE: Policy 3.7.9.2 (Waiting Time Accrual for Lung Candidates Age 12 and Older Following Implementation of Lung Allocation Scores Described in Policy 3.7.6) (BOLDED and as of the June 24, 2005 Board of Directors Meeting) shall be approved and implemented pending distribution of appropriate notice and programming on UNetSM, if and as applicable.

3.7.9.3 Waiting Time Accrual for Lung Candidates Less than 12 Years of Age.

Candidates listed as a Status Priority 1 or Status Priority 2 will accrue waiting time within each status priority. When waiting time is used for thoracic organ allocation, a Priority 1 and Priority 2 candidates will receive a preference over other candidates within a match run classification who have accumulated less waiting time within the same status category (see Policy 3.7.9). However, a candidate's waiting time accrued while listed as Status 2 will not be used in prioritizing the candidate for lung allocation if the candidate is upgraded to Status 1. For Priority 1 candidates, UNetSM will only consider the most recent time spent as Priority 1, i.e., UNetSM will not tally the time waiting during multiple Priority 1 periods.

If multiple candidates have accrued the same amount of time waiting as Status 1, these candidates' total active waiting time will be used to determine priority on the match run for receiving lung offers. The total accrued waiting time is the amount of time spent waiting as a Status 1 and Status 2.

For Priority 2 candidates, and if there is ever a tie among Priority 1 candidates, UNetSM will use total waiting time. Total waiting time includes time spent waiting as Priority 1, Priority 2, and inactive.

NOTE: New Policy 3.9.7.3 (Waiting Time Accrual for Lung Candidates Less than 12 Years of Age) shall be implemented pending distribution of appropriate notice and programming in UNetSM. (Double lines and double strikeouts were added and approved at the June 23, 2009 Board of Directors Meeting.)

NOTE: New Policy 3.9.7.3 (Waiting Time Accrual for Lung Candidates Less than 12 Years of Age) shall be implemented pending distribution of appropriate notice and programming in UNetSM. (Approved at the June 20, 2008 Board of Directors Meeting.)

3.7.10 Sequence of Adult Heart Allocation. Donor hearts recovered from donors age 18 and older shall be allocated in the following sequence in accordance with Policies 3.7.3, 3.7.4, 3.7.5, 3.7.7, 3.7.8, and 3.7.9:

Local

1. Status 1A candidates
2. Status 1B candidates

Zone A

3. Status 1A candidates
4. Status 1B candidates

Local

5. Status 2 candidate s

Zone B

6. Status 1A candidates
7. Status 1B candidates

Zone A

8. Status 2 candidates

Zone B

9. Status 2 candidates

Zone C

10. Status 1A candidates
11. Status 1B candidates
12. Status 2 candidates

Zone D

13. Status 1A candidates
14. Status 1B candidates
15. Status 2 candidates

Zone E

16. Status 1A candidates
17. Status 1B candidates
18. Status 2 candidates

3.7.10.1 Sequence of Pediatric Heart Allocation. Hearts recovered from pediatric donors shall be allocated in the following sequence in accordance with Policies 3.7.3, 3.7.4, 3.7.5, 3.7.7, 3.7.8, and 3.7.9:

1. Combined Local and Zone A Status 1A Pediatric candidates
2. Local Status 1A Adult candidates
3. Combined Local and Zone A Status 1B Pediatric candidates
4. Local Status 1B Adult candidates
5. Zone A Status 1A Adult candidates
6. Zone A Status 1B Adult candidates
7. Local Status 2 Pediatric candidates
8. Local Status 2 Adult candidates
9. Zone B Status 1A Pediatric candidates
10. Zone B Status 1A Adult candidates
11. Zone B Status 1B Pediatric candidates
12. Zone B Status 1B Adult candidates
13. Zone A Status 2 Pediatric candidates
14. Zone A Status 2 Adult candidates
15. Zone B Status 2 Pediatric candidates
16. Zone B Status 2 Adult candidates
17. Zone C Status 1A Pediatric candidates
18. Zone C Status 1A Adult candidates
19. Zone C Status 1B Pediatric candidates
20. Zone C Status 1B Adult candidates
21. Zone C Status 2 Pediatric candidates
22. Zone C Status 2 Adult candidates
23. Zone D Status 1A Pediatric candidates
24. Zone D Status 1A Adult candidates

- ~~25. Zone D Status 1B Pediatric candidates~~
- ~~26. Zone D Status 1B Adult candidates~~
- ~~27. Zone D Status 2 Pediatric candidates~~
- ~~28. Zone D Status 2 Adult candidates~~
- ~~29. Zone E Status 1A Pediatric candidates~~
- ~~30. Zone E Status 1A Adult candidates~~
- ~~31. Zone E Status 1B Pediatric candidates~~
- ~~32. Zone E Status 1B Adult candidates~~
- ~~33. Zone E Status 2 Pediatric candidates~~
- ~~34. Zone E Status 2 Adult candidates~~
1. Common OPO and Zone A Status 1A ABO Primary Ped Candidates for Pediatric Donor
2. Common OPO and Zone A Status 1A ABO Secondary Ped Candidates for Pediatric Donor
3. Common OPO Status 1A ABO Primary Candidates
4. Common OPO Status 1A ABO Secondary Candidates
5. Common OPO and Zone A Status 1B ABO Primary Ped Candidates for Pediatric Donor
6. Common OPO and Zone A Status 1B ABO Secondary Ped Candidates for Pediatric Donor
7. Common OPO Status 1B ABO Primary Candidates
8. Common OPO Status 1B ABO Secondary Candidates
9. Zone A Status 1A ABO Primary Candidates
10. Zone A Status 1A ABO Secondary Candidates
11. Zone A Status 1B ABO Primary Candidates
12. Zone A Status 1B ABO Secondary Candidates
13. Common OPO Status 2 ABO Primary Ped Candidates for Pediatric Donor
14. Common OPO Status 2 ABO Secondary Ped Candidates for Pediatric Donor
15. Common OPO Status 2 ABO Primary Candidates
16. Common OPO Status 2 ABO Secondary Candidates
17. Zone B Status 1A ABO Primary Ped Candidates for Pediatric Donor
18. Zone B Status 1A ABO Secondary Ped Candidates for Pediatric Donor
19. Zone B Status 1A ABO Primary Candidates
20. Zone B Status 1A ABO Secondary Candidates
21. Zone B Status 1B ABO Primary Ped Candidates for Pediatric Donor
22. Zone B Status 1B ABO Secondary Ped Candidates for Pediatric Donor
23. Zone B Status 1B ABO Primary Candidates
24. Zone B Status 1B ABO Secondary Candidates
25. Zone A Status 2 ABO Primary Ped Candidates for Pediatric Donor
26. Zone A Status 2 ABO Secondary Ped Candidates for Pediatric Donor
27. Zone A Status 2 ABO Primary Candidates
28. Zone A Status 2 ABO Secondary Candidates
29. Zone B Status 2 ABO Primary Ped Candidates for Pediatric Donor
30. Zone B Status 2 ABO Secondary Ped Candidates for Pediatric Donor
31. Zone B Status 2 ABO Primary Candidates
32. Zone B Status 2 ABO Secondary Candidates
33. Zone C Status 1A ABO Primary Ped Candidates for Pediatric Donor
34. Zone C Status 1A ABO Secondary Ped Candidates for Pediatric Donor
35. Zone C Status 1A ABO Primary Candidates
36. Zone C Status 1A ABO Secondary Candidates
37. Zone C Status 1B ABO Primary Ped Candidates for Pediatric Donor
38. Zone C Status 1B ABO Secondary Ped Candidates for Pediatric Donor
39. Zone C Status 1B ABO Primary Candidates
40. Zone C Status 1B ABO Secondary Candidates
41. Zone C Status 2 ABO Primary Ped Candidates for Pediatric Donor
42. Zone C Status 2 ABO Secondary Ped Candidates for Pediatric Donor
43. Zone C Status 2 ABO Primary Candidates

44. Zone C Status 2 ABO Secondary Candidates
45. Zone D Status 1A ABO Primary Ped Candidates for Pediatric Donor
46. Zone D Status 1A ABO Secondary Ped Candidates for Pediatric Donor
47. Zone D Status 1A ABO Primary Candidates
48. Zone D Status 1A ABO Secondary Candidates
49. Zone D Status 1B ABO Primary Ped Candidates for Pediatric Donor
50. Zone D Status 1B ABO Secondary Ped Candidates for Pediatric Donor
51. Zone D Status 1B ABO Primary Candidates
52. Zone D Status 1B ABO Secondary Candidates
53. Zone D Status 2 ABO Primary Ped Candidates for Pediatric Donor
54. Zone D Status 2 ABO Secondary Ped Candidates for Pediatric Donor
55. Zone D Status 2 ABO Primary Candidates
56. Zone D Status 2 ABO Secondary Candidates
57. Zone E Status 1A ABO Primary Ped Candidates for Pediatric Donor
58. Zone E Status 1A ABO Secondary Ped Candidates for Pediatric Donor
59. Zone E Status 1A ABO Primary Candidates
60. Zone E Status 1A ABO Secondary Candidates
61. Zone E Status 1B ABO Primary Ped Candidates for Pediatric Donor
62. Zone E Status 1B ABO Secondary Ped Candidates for Pediatric Donor
63. Zone E Status 1B ABO Primary Candidates
64. Zone E Status 1B ABO Secondary Candidates
65. Zone E Status 2 ABO Primary Ped Candidates for Pediatric Donor
66. Zone E Status 2 ABO Secondary Ped Candidates for Pediatric Donor
67. Zone E Status 2 ABO Primary Candidates
68. Zone E Status 2 ABO Secondary Candidates
69. Common OPO and Zone A Status 1A ABO Incompatible Ped Candidates for Pediatric Donor
70. Common OPO and Zone A Status 1B ABO Incompatible Ped Candidates for Pediatric Donor
71. Common OPO Status 2 ABO Incompatible Candidates
72. Zone B Status 1A ABO Incompatible Candidates
73. Zone B Status 1B ABO Incompatible Candidates
74. Zone C Status 1A ABO Incompatible Candidates
75. Zone C Status 1B ABO Incompatible Candidates
76. Zone D Status 1A ABO Incompatible Candidates
77. Zone D Status 1B ABO Incompatible Candidates
78. Zone E Status 1A ABO Incompatible Candidates
79. Zone E Status 1B ABO Incompatible Candidates
80. Common OPO and Zone A ABO Primary In Utero Candidates
81. Common OPO and Zone A ABO Secondary In Utero Candidates
82. Common OPO and Zone A ABO Incompatible In Utero Candidates
83. Zone B ABO Primary In Utero Candidates
84. Zone B ABO Secondary In Utero Candidates
85. Zone B ABO Incompatible In Utero Candidates
86. Zone C ABO Primary In Utero Candidates
87. Zone C ABO Secondary In Utero Candidates
88. Zone C ABO Incompatible In Utero Candidates
89. Zone D ABO Primary In Utero Candidates
90. Zone D ABO Secondary In Utero Candidates
91. Zone D ABO Incompatible In Utero Candidates
92. Zone E ABO Primary In Utero Candidates
93. Zone E ABO Secondary In Utero Candidates
94. Zone E ABO Incompatible In Utero Candidates

NOTE: *The amendments to Policy 3.7.10.1 (Sequence of Pediatric Heart Allocation) shall be effective pending notice to the membership and programming in UNetSM. (Approved at the November 17, 2009 Board of Directors Meeting.)*

November 17, 2009

3.7.11 Sequence of Adult Donor Lung Allocation. Candidates age 12 and older awaiting a lung transplant whether it is a single lung transplant or a double lung transplant will be grouped together for adult (18 years old and older) donor lung allocation. If one lung is allocated to a candidate needing a single lung transplant, the other lung will be then allocated to another candidate waiting for a single lung transplant.

Lungs from adult donors will first be offered to candidates age 12 and older, and then to candidates 0 – 11 years old. Lungs from adult donors will be allocated locally first, then to candidates in Zone A, then to candidates in Zone B, then to candidates in Zone C, then to candidates in Zone D and finally to candidates in Zone E. In each of those six geographic areas, candidates will be grouped so that candidates who have an ABO blood type that is identical to that of the donor are ranked according to applicable allocation priority; the lungs will be allocated in descending order to candidates in that ABO identical type. If the lungs are not allocated to candidates in that ABO identical type, they will be allocated in descending order according to applicable allocation priority to the remaining candidates in that geographic area who have a blood type that is compatible (but not identical) with that of the donor. In summary, the allocation sequence for adult donor lungs is as follows:

- i. 1. First locally to Local ABO identical candidates age 12 and older according to Lung Allocation Score in descending order;
- ii. 2. Next, locally to Local ABO compatible candidates age 12 and older according to Lung Allocation Score in descending order;
- iii. 3. Next, locally to Local ABO identical Status Priority 1 candidates 0 – 11 years old according to length of waiting time;
- iv. 4. Next, locally to Local ABO compatible Status Priority 1 candidates 0 – 11 years old according to length of waiting time;
- v. 5. Local ABO identical Status Priority 2 candidates 0 – 11 years old according to length of waiting time;
- vi. 6. Local ABO compatible Status Priority 2 candidates 0 – 11 years old according to length of waiting time;
- vii. 7. Next, to ABO identical candidates age 12 and older in Zone A according to Lung Allocation Score in descending order;
- viii. 8. Next, to ABO compatible candidates age 12 and older in Zone A according to Lung Allocation Score in descending order;
- ix. 9. Next, to ABO identical Status Priority 1 candidates 0 – 11 years old in Zone A according to length of waiting time;
- x. 10. Next, to ABO compatible Status Priority 1 candidates 0 – 11 years old in Zone A according to length of waiting time;
- xi. 11. ABO identical Status Priority 2 candidates 0 – 11 years old in Zone A according to length of waiting time;
- xii. 12. ABO compatible Status Priority 2 candidates 0 – 11 years old in Zone A according to length of waiting time;
- xiii. 13. Next, to ABO identical candidates age 12 and older in Zone B according to Lung Allocation Score in descending order;
- xiv. 14. Next, to ABO compatible candidates age 12 and older in Zone B according to Lung Allocation Score in descending order;
- xv. 15. Next, to ABO identical Status Priority 1 candidates 0 – 11 years old in Zone B according to length of waiting time;
- xvi. 16. Next, to ABO compatible Status Priority 1 candidates 0 – 11 years old in Zone B according to length of waiting time;
- xvii. 17. ABO identical Status Priority 2 candidates 0 – 11 years old in Zone B according to length of waiting time;
- xviii. 18. ABO compatible Status Priority 2 candidates 0 – 11 years old in Zone B according to length of waiting time;
- xix. 19. Next, to ABO identical candidates age 12 and older in Zone C according to Lung Allocation Score in descending order;

- xx.20. ~~Next, to ABO compatible candidates age 12 and older in Zone C according to Lung Allocation Score in descending order;~~
- xxi.21. ~~Next, to ABO identical Status Priority 1 candidates 0 – 11 years old in Zone C according to length of waiting time;~~
- xxii.22. ~~Next, to ABO compatible Status Priority 1 candidates 0 – 11 years old in Zone C according to length of waiting time;~~
- xxiii.23. ~~ABO identical Status Priority 2 candidates 0 – 11 years old in Zone C according to length of waiting time;~~
- xxiv.24. ~~ABO compatible Status Priority 2 candidates 0 – 11 years old in Zone C according to length of waiting time;~~
- xxv.25. ~~Next, to ABO identical candidates age 12 and older in Zone D according to Lung Allocation Score in descending order;~~
- xxvi.26. ~~Next, to ABO compatible candidates age 12 and older in Zone D according to Lung Allocation Score in descending order;~~
- xxvii.27. ~~Next, to ABO identical Status 1 candidates 0 – 11 years old in Zone D according to length of waiting time;~~
- xxviii.28. ~~Next, to ABO compatible Status 1 candidates 0 – 11 years old in Zone D according to length of waiting time;~~
- xxix.29. ~~ABO identical Status Priority 2 candidates 0 – 11 years old in Zone D according to length of waiting time;~~
- xxx.30. ~~ABO compatible Status Priority 2 candidates 0 – 11 years old in Zone D according to length of waiting time;~~
- xxxi.31. ~~Next, to ABO identical candidates age 12 and older in Zone E according to Lung Allocation Score in descending order;~~
- xxxii.32. ~~Next, to ABO compatible candidates age 12 and older in Zone E according to Lung Allocation Score in descending order;~~
- xxxiii.33. ~~Next, to ABO identical Status Priority 1 candidates 0 – 11 years old in Zone E according to length of waiting time; and~~
- xxxiv.34. ~~Next, to ABO compatible Status Priority 1 candidates 0 – 11 years old in Zone E according to length of waiting time.~~
- xxxv.35. ~~ABO identical Status Priority 2 candidates 0 – 11 years old in Zone E according to length of waiting time;~~
- xxxvi.36. ~~ABO compatible Status Priority 2 candidates 0 – 11 years old in Zone E according to length of waiting time;~~

3.7.11.1 Sequence of Pediatric Donor Lung Allocation. Candidates 0 – 11 years old awaiting a single or double lung transplant will be grouped together for allocation purposes. If one lung is allocated to a candidate waiting for a single lung transplant, the other lung will be then allocated to another candidate waiting for a single lung transplant.

Candidates 12 – 17 years old awaiting a single or double lung transplant will be grouped together for pediatric (0 – 17 years old) donor lung allocation. If one lung is allocated to a candidate waiting for a single lung transplant, the other lung will be then allocated to another candidate waiting for a single lung transplant.

Lungs from donors 0 – 11 years old will first be offered to candidates age 0 – 11; then to candidates age 12 – 17; then to candidates 18 years and older. Lungs will be allocated locally first, then to candidates in Zone A, then to candidates in Zone B, then to candidates in Zone C, then to candidates in Zone D, and finally to candidates in Zone E. In each of these six geographic areas, candidates will be grouped so that candidates those who have an ABO blood type that is identical to that of the donor are ranked according to applicable allocation priority; the lungs will be allocated in descending order to candidates in that ABO identical type. If the lungs are not allocated to candidates in that ABO identical type, they will be allocated in descending order according to

3.7 - 25

applicable allocation priority to the remaining candidates in that geographic area who have a blood type that is compatible (but not identical) with that of the donor.

- Offers for 0-11 year-olds will first be made to combined local, Zone A and Zone B candidates by status priority and waiting time. After adolescent and adult offers are completed through Zone B, offers will continue to these younger candidates in Zones C, D and E prior to adolescents and adults within in each zone.
- Offers for 12-17 year-olds will first be made to combined local and Zone A candidates according to lung allocation score in descending order after the completion of 0-11 year-old offers through Zone B. Once adult Zone A offers are completed, offers will continue to adolescent candidates in Zones B, C, D and E after the younger 0-11 candidates and before the adult candidates within each zone.
- Offers to adult candidates (18 years and older) will be made after the completion of 0-11 year old offers through Zone B and adolescent offers through Zone A. After local and Zone A adult offers are completed, offers will continue in Zones B, C, D and E after the completion of all pediatric offers within each zone.

In summary, the allocation sequence for lungs from donors 0-11 years old is as follows:

- i. ~~First locally to ABO identical candidates 0-11 years old according to length of time waiting;~~
- ii. ~~Next, locally to ABO compatible candidates 0-11 years old according to length of time waiting;~~
1. Combined local, Zone A and Zone B ABO identical Status Priority 1 candidates 0-11 years old according to length of waiting time;
2. Combined local, Zone A and Zone B ABO compatible Status Priority 1 candidates 0-11 years old according to length of waiting time;
3. Combined local, Zone A and Zone B ABO identical Status Priority 2 candidates 0-11 years old according to length of waiting time;
4. Combined local, Zone A and Zone B ABO compatible Status Priority 2 candidates 0-11 years old according to length of waiting time;
5. Combined local and Zone A ABO identical candidates 12-17 years old according to Lung Allocation Score in descending order;
6. Combined Local and Zone A ABO compatible candidates 12-17 years old according to Lung Allocation Score in descending order;
- iii. ~~Next, locally to ABO identical candidates 12-17 years old according to Lung Allocation Score in descending order;~~
- vii. ~~Next, locally to ABO compatible candidates 12-17 years old according to Lung Allocation Score in descending order;~~
- viii. 7. Next, locally to Local ABO identical candidates 18 years old and older according to Lung Allocation Score in descending order;
- ~~ix. 8. Next, locally to Local ABO compatible candidates 18 years old and older according to Lung Allocation Score in descending order;~~
- vii. ~~Next, to ABO identical candidates 0-11 years old in Zone A according to length of time waiting;~~
- viii. ~~Next, to ABO compatible candidates 0-11 years old in Zone A according to length of time waiting;~~
- ix. ~~Next, to ABO identical candidates 12-17 years old in Zone A~~

- according to Lung Allocation Score in descending order;
- ~~x.~~ Next, to ABO compatible candidates 12 – 17 years old in Zone A according to Lung Allocation Score in descending order;
 - ~~x.9.~~ Next, to ABO identical candidates 18 years old and older in Zone A according to Lung Allocation Score in descending order;
 - ~~xi.10.~~ Next, to ABO compatible candidates 18 years old and older in Zone A according to Lung Allocation Score in descending order;
 - ~~xiii.~~ Next, to ABO identical candidates 0 – 11 years old in Zone B according to length of time waiting;
 - ~~xiv.~~ Next, to ABO compatible candidates 0 – 11 years old in Zone B according to length of time waiting;
 - ~~xii.11.~~ Next, to ABO identical candidates 12 – 17 years old in Zone B according to Lung Allocation Score in descending order;
 - ~~xiii.12.~~ Next, to ABO compatible candidates 12 – 17 years old in Zone B according to Lung Allocation Score in descending order;
 - ~~xiv.13.~~ Next, to ABO identical candidates 18 years old and older in Zone B according to Lung Allocation Score in descending order;
 - ~~xv.14.~~ Next, to ABO compatible candidates 18 years old and older in Zone B according to Lung Allocation Score in descending order;
 - ~~xvi.15.~~ Next, to ABO identical Status Priority 1 candidates 0 – 11 years old in Zone C according to length of time waiting;
 - ~~xvii.16.~~ Next, to ABO compatible Status Priority 1 candidates 0 – 11 years old in Zone C according to length of time waiting;
 - ~~xviii. 17.~~ ABO identical Status 2 candidates 0-11 years old in Zone C according to length of waiting time;
 - 18. ABO compatible Status Priority 2 candidates 0-11 years old in Zone C according to length of waiting time;
 - ~~xx.19.~~ Next, to ABO identical candidates 12 – 17 years old in Zone C according to Lung Allocation Score in descending order;
 - ~~xxi.20.~~ Next, to ABO compatible candidates 12 – 17 years old in Zone C according to Lung Allocation Score in descending order;
 - ~~xxii.21.~~ Next, to ABO identical candidates 18 years old and older old in Zone C according to Lung Allocation Score in descending order;
 - ~~xxiii.22.~~ Next, to ABO compatible candidates 18 years old and older in Zone C according to Lung Allocation Score in descending order;
 - ~~xxiv.23.~~ Next, to ABO identical Status Priority 1 candidates 0 – 11 years old in Zone D according to length of time waiting;
 - ~~xxvi.24.~~ Next, to ABO compatible Status Priority 1 candidates 0 – 11 years old in Zone D according to length of time waiting;
 - 25. ABO identical Status Priority 2 candidates 0-11 years old in Zone D according to length of waiting time;
 - 26. ABO compatible Status Priority 2 candidates 0-11 years old in Zone D according to length of waiting time;
 - ~~xxvii.27.~~ Next, to ABO identical candidates 12 – 17 years old in Zone D according to Lung Allocation Score in descending order;
 - ~~xxviii.28.~~ Next, to ABO compatible candidates 12 – 17 years old in Zone D according to Lung Allocation Score in descending order;
 - ~~xxix.29.~~ Next, to ABO identical candidates 18 years old and older in Zone D according to Lung Allocation Score in descending order; and
 - ~~xxx.30.~~ Next, to ABO compatible candidates 18 years old and older in Zone D according to Lung Allocation Score in descending order.
 - ~~xxxi.31.~~ Next, to ABO identical Status Priority 1 candidates 0 – 11 years old in Zone E according to length of time waiting;
 - ~~xxxii.32.~~ Next, to ABO compatible Status Priority 1 candidates 0 – 11 years old in Zone E according to length of time waiting;
 - 33. ABO identical Status Priority 2 candidates 0-11 years old in Zone E according to length of waiting time;
 - 34. ABO compatible Status Priority 2 candidates 0-11 years old in Zone E according to length of waiting time;

- ~~xxxv.~~ 35. Next, to ABO identical candidates 12 – 17 years old in Zone E according to Lung Allocation Score in descending order;
- ~~xxxvi.~~ 36. Next, to ABO compatible candidates 12 – 17 years old in Zone E according to Lung Allocation Score in descending order;
- ~~xxxvii.~~ 37. Next, to ABO identical candidates 18 years old and older in Zone E according to Lung Allocation Score in descending order; and
- ~~xxxviii.~~ 38. Next, to ABO compatible candidates 18 years old and older in Zone E according to Lung Allocation Score in descending order.

Lungs from donors 12 – 17 years old will first be offered to candidates age 12 – 17 years old; then to candidates age 0 – 11; then to candidates 18 years and older. Lungs will be allocated locally first, then to candidates in Zone A, then to candidates in Zone B, then to candidates in Zone C, then to candidates in Zone D and finally to candidates in Zone E. In each of those six geographic areas, candidates will be grouped so that ~~candidates those~~ who have an ABO blood type that is identical to that of the ~~compatible (but not identical) with that of the donor~~ are ranked according to applicable allocation priority; the lungs will be allocated in descending order to candidates in that ABO identical type. If the lungs are not allocated to candidates in that ABO identical type, they will be allocated in descending order according to applicable allocation priority to the remaining candidates in that geographic area who have a blood type that is compatible (but not identical) with that of the donor.

In summary, the allocation sequence for lungs from donors 12 – 17 years old is as follows:

- ~~i.~~ 1. First ~~locally to Local~~ Local ABO identical candidates 12 – 17 years old according to Lung Allocation Score in descending order;
- ~~ii.~~ 2. Next, ~~locally to Local~~ Local ABO compatible candidates 12 – 17 years old according to Lung Allocation Score in descending order;
- ~~iii.~~ 3. Next, ~~locally to Local~~ Local ABO identical Status 1 candidates 0 – 11 years old according to length of time waiting;
- ~~iii.~~ 4. Local ABO compatible Status 1 candidates 0 – 11 years old according to length of time waiting;
- 5. Local ABO identical Status 2 candidates 0 – 11 years old according to length of time waiting;
- 6. Local ABO compatible Status 2 candidates 0 – 11 years old according to length of time waiting;
- ~~vi.~~ 7. Next, ~~locally to Local~~ Local ABO identical candidates 18 years old and older according to Lung Allocation Score in descending order;
- ~~vii.~~ 8. Next, ~~locally to Local~~ Local ABO compatible candidates 18 years old and older according to Lung Allocation Score in descending order;
- ~~viii.~~ 9. Next, to ABO identical candidates 12 – 17 years old in Zone A according to Lung Allocation Score in descending order;
- ~~vix.~~ 10. Next, to ABO compatible candidates 12 – 17 years old in Zone A according to Lung Allocation Score in descending order;
- ~~x.~~ 11. Next, to ABO identical Status Priority 1 candidates 0 – 11 years old in Zone A according to length of time waiting;
- ~~xi.~~ 12. Next, to ABO compatible Status Priority 1 candidates 0 – 11 years old in Zone A according to length of time waiting;
- ~~xii.~~ 13. ABO identical Status Priority 2 candidates 0 – 11 years old in Zone A according to length of time waiting;
- 14. ABO compatible Status Priority 2 candidates 0 – 11 years old in Zone A according to length of time waiting;
- ~~xiv.~~ 15. Next, to ABO identical candidates 18 years old and older in Zone A according to Lung Allocation Score in descending order;
- ~~xv.~~ 16. Next, to ABO compatible candidates 18 years old and older in Zone A according to Lung Allocation Score in descending order;

- ~~xxvi-17.~~ Next, to ABO identical candidates 12 – 17 years old in zone B according to Lung Allocation Score in descending order;
- ~~xxvii-18.~~ Next, to ABO compatible candidates 12 – 17 years old in zone B according to Lung Allocation Score in descending order;
- ~~xxviii-19.~~ Next, to ABO identical Status Priority 1 candidates 0 – 11 years old in Zone B according to length of time waiting;
- ~~xix-20.~~ Next, to ABO compatible Status Priority 1 candidates 0 – 11 years old in Zone B according to length of time waiting;
- 21. ABO identical Status Priority 2 candidates 0 – 11 years old in Zone B according to length of time waiting;
- 22. ABO compatible Status Priority 2 candidates 0 – 11 years old in Zone B according to length of time waiting;
- ~~xxii-23.~~ Next, to ABO identical candidates 18 years old and older in Zone B according to Lung Allocation Score in descending order;
- ~~xxiii-24.~~ Next, to ABO compatible candidates 18 years old and older in Zone B according to Lung Allocation Score in descending order;
- ~~xxiv-25.~~ Next, to ABO identical candidates 12 – 17 years old in zone C, according to Lung Allocation Score in descending order;
- ~~xxv-26.~~ Next, to ABO compatible candidates 12 – 17 years old in zone C according to Lung Allocation Score in descending order;
- ~~xxvi-27.~~ Next, to ABO identical Status Priority 1 candidates 0 – 11 years old in Zone C according to length of time waiting;
- ~~xxvii-28.~~ Next, to ABO compatible Status Priority 1 candidates 0 – 11 years old in Zone C according to length of time waiting;
- 29. ABO identical Status Priority 2 candidates 0 – 11 years old in Zone C according to length of time waiting;
- 30. ABO compatible Status Priority 2 candidates 0 – 11 years old in Zone C according to length of time waiting;
- ~~xxx-31.~~ Next, to ABO identical candidates 18 years old and older old in Zone C according to Lung Allocation Score in descending order;
- ~~xxxi-32.~~ Next, to ABO compatible candidates 18 years old and older in Zone C according to Lung Allocation Score in descending order;
- ~~xxxii-33.~~ Next, to ABO identical candidates 12 – 17 years old in zone D according to Lung Allocation Score in descending order;
- ~~xxxiii-34.~~ Next, to ABO compatible candidates 12 – 17 years old in zone D according to Lung Allocation Score in descending order;
- ~~xxxiv-35.~~ Next, to ABO identical Status Priority 1 candidates 0 – 11 years old in Zone D according to length of time waiting;
- ~~xxxv-36.~~ Next, to ABO compatible Status Priority 1 candidates 0 – 11 years old in Zone D according to length of time waiting;
- 37. ABO identical Status Priority 2 candidates 0 – 11 years old in Zone D according to length of time waiting;
- 38. ABO compatible Status Priority 2 candidates 0 – 11 years old in Zone D according to length of time waiting;
- ~~xxxviii-39.~~ Next, to ABO identical candidates 18 years old and older in Zone D according to Lung Allocation Score in descending order; and
- ~~xxxix-40.~~ Next, to ABO compatible candidates 18 years old and older in Zone D according to Lung Allocation Score in descending order.
- ~~xxxx-41.~~ Next, to ABO identical candidates 12 – 17 years old in Zone E according to Lung Allocation Score in descending order;
- ~~xxxxi-42.~~ Next, to ABO compatible candidates 12 – 17 years old in Zone E according to Lung Allocation Score in descending order;
- ~~xxxxii-43.~~ Next, to ABO identical Status Priority 1 candidates 0 – 11 years old in Zone E according to length of time waiting;
- ~~xxxxiii-44.~~ Next, to ABO compatible Status Priority 1 candidates 0 – 11 years old in Zone E according to length of time waiting;
- 45. ABO identical Status Priority 2 candidates 0 – 11 years old in Zone E according to length of time waiting;

46. ABO compatible Status Priority 2 candidates 0 – 11 years old in Zone E according to length of time waiting;
- ~~xxxxvi.47.~~ Next, to ABO identical candidates 18 years old and older in Zone E according to Lung Allocation Score in descending order; and
- ~~xxxxvii.48.~~ Next, to ABO compatible candidates 18 years old and older in Zone E according to Lung Allocation Score in descending order.

NOTE: *The amendments to Policy 3.7.11 (Sequence of Adult Donor Lung Allocation) and Policy 3.7.11.1 (Sequence of Pediatric Donor Lung Allocation) shall be implemented pending distribution of appropriate notice and programming in UNetSM. (Double lines and double strikeouts were added and approved at the June 23, 2009 Board of Directors Meeting.)*

NOTE: *The amendments to Policy 3.7.11 (Sequence of Adult Donor Lung Allocation) and Policy 3.7.11.1 (Sequence of Pediatric Donor Lung Allocation) shall be implemented pending distribution of appropriate notice and programming in UNetSM. (Approved at the June 20, 2008 Board of Directors Meeting.)*

3.7.12 Minimum Information for Thoracic Organ Offers.

3.7.12.1 Essential Information. The Host OPO or donor center must provide the following donor information to the recipient center with each thoracic organ offer:

- (i) The cause of brain death;
- (ii) The details of any documented cardiac arrest or hypotensive episodes;
- (iii) Vital signs including blood pressure, heart rate and temperature;
- (iv) Cardiopulmonary, social, and drug activity histories;
- (v) Pre- or post-transfusion serologies as indicated in 2.2.7.1 (pre-transfusion preferred);
- (vi) Accurate height, weight, age and sex;
- (vii) ABO type;
- (viii) Interpreted electrocardiogram and chest radiograph;
- (ix) History of treatment in hospital including vasopressors and hydration;
- (x) Arterial blood gas results and ventilator settings; and
- (xi) Echocardiogram, if the donor hospital has the facilities.

The thoracic organ procurement team must have the opportunity to speak directly with responsible ICU personnel or the on-site donor coordinator in order to obtain current first-hand information about the donor physiology.

3.7.12.2 Desirable Information for Heart Offers. With each heart offer, the donor center is encouraged to provide the recipient center with the following information:

- (i) Coronary angiography for male donors over the age of 40 and female donors over the age of 45;
- (ii) CVP or Swan Ganz instrumentation;
- (iii) Cardiology consult; and
- (iv) Cardiac enzymes including CPK isoenzymes.

With each heart offer, it is reasonable for the transplanting center to request a heart catheterization of the donor where the donor history reveals one or more of the following:

- (a) The donor is a male over the age of 40 or a female over the age of 45;
- (b) Segmental wall motion abnormality;
- (c) Troponin elevation;

3.7 - 30

- (d) History of chest pain;
- (e) Abnormal EKG consistent with ischemia or myocardial infarction; or
- (f) Two or more of the following:
 - i. History of hypertension
 - ii. History of significant smoking
 - iii. Intra-cerebral bleed
 - iv. Strong family history of coronary artery disease
 - v. History of Hyperlipidemia
 - vi. History of diabetes
 - vii. History of cocaine or amphetamine use

3.7.12.3 Essential Information for Lung Offers. In addition to the essential information specified above for a thoracic organ offer, the Host OPO or donor center shall provide the following specific information with each lung offer:

- (i) Arterial blood gases on 5 cm/H₂O/PEEP including PO₂/FiO₂ ratio and preferably 100% FiO₂ within 2 hours prior to the offer;
- (ii) Bronchoscopy results. Bronchoscopy of a lung donor is recognized as an important element of donor evaluation, and should be arranged by the Host OPO or donor center. If the Host OPO or donor center lacks the personnel and/or technical capabilities to comply, the bronchoscopy responsibility will be that of the recipient center. The inability of the Host OPO or donor center to perform a bronchoscopy must be documented. Confirmatory bronchoscopy may be performed by the lung retrieval team provided unreasonable delays are avoided. A lung transplant program may not insist upon performing its own bronchoscopy before being subject to the 60 minute response time limit as specified in Policy 3.4.1;
- (iii) Chest radiograph interpreted by a radiologist or qualified physician within 3 hours prior to the offer;
- (iv) Sputum gram stain with a description of the sputum character; and
- (v) Smoking history.

3.7.12.4 Desirable Information for Lung Offers. With each lung offer, the Host OPO or donor center is encouraged to provide the recipient center with the following information:

- (i) Mycology smear; and
- (ii) Measurement of chest circumference in inches or centimeters at the level of the nipples and x-ray measurement vertically from the apex of the chest to the apex of the diaphragm and transverse at the level of the diaphragm, if requested.

3.7.13 Status 1 Listing Verification. A transplant center which has demonstrated noncompliance with the Status 1 criteria specified in Policy 3.7.3 (Primary Allocation Criteria) for heart candidate registration shall be audited on a random basis and any recurrence of noncompliance will result in a recommendation to the Membership and Professional Standards Committee and Executive Committee that further Status 1 heart candidate registrations from that center shall be subject to verification by OPTN contractor of the candidates' medical status prior to their Status 1 placement on the Waiting List for a period of one year.

3.7.14 Removal of Thoracic Organ Transplant Candidates from Thoracic Organ Waiting Lists When Transplanted or Deceased. If a heart, lung, or heart-lung transplant candidate on the Waiting List has received a transplant from a deceased or living donor,

3.7 - 31

or has died while awaiting a transplant, the listing center, or centers if the candidate is multiple listed, shall immediately remove that candidate from all Thoracic Organ Waiting Lists for that transplanted organ and shall notify the OPTN contractor within 24 hours of the event. If the thoracic organ recipient is again added to a Thoracic Organ Waiting List, waiting time shall begin as of the date and time the candidate is relisted.

- 3.7.15 **Local Conflicts Involving Thoracic Organ Allocation.** Regarding allocation of hearts, lungs and heart-lung combinations, locally unresolvable inequities or conflicts that arise from prevailing OPO policies may be submitted by any interested local member for review and adjudication to the Thoracic Organ Transplantation Committee and the Board of Directors.
- 3.7.16 **Allocation of Domino Donor Hearts.** A domino heart transplant occurs when the native heart of a combined heart-lung transplant recipient is procured and transplanted into a candidate who requires an isolated heart transplant. First consideration for donor hearts procured for this purpose will be given to the candidates of the participating transplant program from which the native heart was procured. If the program elects not to use the heart, then the heart will be allocated according to Policy 3.7, or an approved variance to this policy. For the purpose of Policy 3.7.16, the Local Unit of allocation for the domino heart shall be defined as the CMS-designated service area of the OPO where the domino heart is procured.
- 3.7.17 **Crossmatching for Thoracic Organs.** The transplant program and its histocompatibility laboratory must have a joint written policy that states when a crossmatch is necessary. Guidelines for policy development, including assigning risk and timing of crossmatch testing, are set out in Appendix D of Policy 3.