

OPTN Executive Committee

Meeting Summary

January 9, 2023

Conference Call

Jerry McCauley, MD, MPH, FACP, Chair

Introduction

The OPTN Executive Committee met via Cisco Webex Meetings teleconference on 01/09/2023 to discuss the following agenda items:

1. Public Comment Proposals from the Policy Oversight Committee (POC)*
2. Clarification to the Continuous Distribution of Lungs Value Tables*

The following is a summary of the Committee's discussions.

1. Public Comment Proposals from the Policy Oversight Committee (POC)*

Dr. Nicole Turgeon, Chair of the Policy Oversight Committee (POC), presented the public comment proposals for Winter 2023 Public Comment. The POC reviewed these proposals and recommended them to the Executive Committee for release for public comment:

- Continuous Distribution of Kidneys and Pancreata Committee Update
- Modify Heart Policy for Intended Incompatible Blood Type (ABOi) Offers to Pediatric Candidates
- Optimizing Usage of Offer Filters
- Ethical Evaluation of Multiple Listing
- Identify Priority Shares in Kidney Multi-Organ Allocation
- Improve Deceased Donor Evaluation for Endemic Diseases
- Require Human Leukocyte Antigen (HLA) Confirmatory Typing for Deceased Donors
- Expand Required Simultaneous Liver-Kidney Allocation
- National Liver Review Board (NLRB) Guidance for Multivisceral Transplant Candidates
- Align OPTN KPD Blood Type Matching Policy and Establish Donor Re-Evaluation Requirements
- Update on Continuous Distribution of Livers and Intestines
- Establish Member System Access, Security Framework, and Incident Management and Reporting Requirements

Summary of discussion:

When discussing the proposals from the Multi-Organ Transplantation Committee (MOT), a committee member commented that it is important to look at not just the characteristics of a recipient, but to also look at the characteristics of the donor; they suggested that doctors analyze the quality of an organ. Dr. Turgeon explained that the project involves candidates' characteristics when receiving a transplant and what characteristics give them prioritization when receiving a transplant. Dr. Turgeon will take the suggestion back to the committee and commented that the committee could add additional questions to the public comment proposal.

A committee member commented on Ethics Committee's white paper regarding an ethical evaluation of multiple listing. They commended the committee's work and noted that this project was especially

relevant in terms of the National Academies of Sciences, Engineering, and Medicine: *Realizing the Promise of Equity in the Organ Transplantation System* recommendations.

When discussing how the projects aligned with the strategic goal, a committee member suggested the POC add “decreasing organ non-usage” to the goal of increasing the number of transplants. They thought that organ non-usage may not be getting enough attention and should be at the forefront of policy discussions. Dr. Turgeon agreed and commented that the strategic goals that POC aligns each project with come straight from the strategic plan. She suggested that if the Board would like to see changes in the strategic goals, they should take this into the account when developing the next strategic plan.

Vote:

The Executive Committee voted in unanimous approval to approve the proposed public comment items for Winter 2023.

Next Steps:

Public comment will occur from January 19th to March 15th, 2023.

2. Clarification to the Continuous Distribution of Lungs Value Tables*

Marie Budev, Chair of the Lung Transplantation Committee, presented non-substantive clarifications to policy language to correct the value for proportion of incompatible donors based on lung height, and to remove the post-transplant survival probability value for day 1,826.

Summary of Discussion:

A committee member asked if there were an unintended negative consequences the committee expected to arise from the clarifications, to which Dr. Budev and UNOS staff assured the committee member that there were no negative impacts expected.

Vote:

The Executive Committee voted in unanimous approval for the clarifications to the continuous distribution of lungs value tables. See appendix A.

Attendance

- **Committee Members**
 - Annette Jackson
 - Brad Kornfeld
 - Dianne LaPointe Rudow
 - Irene Kim
 - Jerry McCauley
 - Jim Sharrock
 - Lloyd Ratner
 - Matthew Cooper
 - Valinda Jones
- **HRSA Representatives**
 - Chris McLaughlin
 - Frank Holloman
 - Shannon Taitt
- **UNOS Staff**
 - Alex Tulchinsky
 - Anna Messmer
 - Cole Fox
 - Dale Smith
 - Jacqui O'Keefe
 - Jason Livingston
 - Kaitlin Swanner
 - Liz Robbins Callahan
 - Maureen McBride
 - Morgan Jupe
 - Rebecca Murdock
 - Roger Brown
 - Susan Tlusty
 - Susie Sprinson
- **Other Attendees**
 - Marie Budev
 - Nicole Turgeon

Appendix A *Mini-Brief*

Clarification to Continuous Distribution of Lungs Value Tables

OPTN Lung Transplantation Committee

*Prepared by: Taylor Livelli
UNOS Policy and Community Relations Department*

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Clarification to Continuous Distribution of Lungs Value Tables

Affected Policies: 21.2.B.2 Probabilities Used in Calculating Lung Post-Transplant Survival
21.2.C.1 Probability of Incompatible Lung Donors Based on Height

Sponsoring Committee: Lung Transplantation

Executive Committee Meeting: January 9, 2023

Purpose

This clarification would amend continuous distribution lung allocation policy to:

- Correct values in *Table 21-9 Proportion of Incompatible Donors Based on Lung Height* to reflect the proportion of incompatible donors based on lung height rather than the candidate height rating scale
- Remove the unnecessary post-transplant survival probability value for day 1826

Proposed Clarification

Proportion of Incompatible Donors Based on Lung Height

The height rating scale in the lung composite allocation score (CAS) awards the highest points to the smallest and tallest candidates, as they have a lower chance of finding an appropriate donor match based on height.¹ The candidate height rating scale is expressed mathematically as follows:

$$\text{Rating scale} = (100^{(\text{proportion height incompatible})} - 1)/99$$

The “proportion height incompatible” input refers to the proportion of incompatible donors for a given candidate based on their height, which was derived from an analysis of donor heights for accepted lung organ offers by candidate height.² *Table 21-9 Proportion of Incompatible Donors Based on Lung Height* was intended to reflect this input but currently reflects the output of the formula shown above, which is the rating scale for height. The Lung Transplantation Committee (Committee) proposes correcting *Table 21-9 Proportion of Incompatible Donors Based on Lung Height* to reflect the proportion of incompatible donors based on lung height rather than the candidate height rating scale.

Post-Transplant Survival Probability

Policy 21.2.B.2 Probabilities Used in Calculating Lung Post-Transplant Survival includes a table that displays the baseline post-transplant survival probability as a function of time in days. The OPTN Executive Committee previously approved updating this table to reflect that the baseline survival probability at 0 days post-transplant is 1, and the baseline survival probability at 1826 days post-transplant is 0.756168.³ However, the formula used in policy indicates that the input to the post-

¹ “Establish Continuous Distribution of Lungs,” OPTN, Briefing Paper, accessed December 21, 2022, <https://optn.transplant.hrsa.gov/media/esjb4ztn/20211206-bp-lung-establish-cont-dist-lungs.pdf>.

² Ibid.

³ Summary for October 26, 2022 meeting, OPTN Executive Committee, accessed December 23, 2022, https://optn.transplant.hrsa.gov/media/eulpysab/20221026_executive-committee_summary.pdf.

transplant survival rating scale will extend out to 1826 days, which covers a five-year period with one leap year:

$$PT_i = \sum_{k=1}^{1826} S_{TX,i}(k)$$

Day 0 through day 1826 amounts to 1827 days, so day 1826 is not needed, and the Committee proposes removing it.

Implementation

The Committee proposes implementing these clarifications along with the implementation of *Establish Continuous Distribution of Lungs*⁴ on March 2, 2023.

Members will not need to take any specific actions. Members can review expected candidate height data points in the OPTN Computer System through reports developed for members in preparation for implementation.

⁴ “Establish Continuous Distribution of Lungs,” OPTN, Notice of OPTN Policy Changes, accessed December 21, 2022, https://optn.transplant.hrsa.gov/media/b13dlep2/policy-notice_lung_continuous-distribution.pdf.

Policy Language

Proposed new language is underlined (example) and language that is proposed for removal is struck through (~~example~~)

1 **RESOLVED**, that the changes to *Policies 21.2.B.2 Probabilities Used in Calculating Lung Post-*
 2 *Transplant Survival* and *21.2.C.1 Probability of Incompatible Lung Donors Based on Height*, as
 3 set forth below, are hereby approved, effective pending implementation and notice to OPTN
 4 members.

5 **21.2.B.2 Probabilities Used in Calculating Lung Post-Transplant Survival**

6 Table 21-8: Baseline Post-Transplant Survival ($S_{TX}(t)$) Probability Where t=Time in Days

7 [...]

t	$S_{TX}(t)$
1826	0.756168

8

9 **21.2.C.1 Probability of Incompatible Lung Donors Based on Height**

10 Table 21-9 lists the proportion of incompatible donors based on the candidate’s height and diagnosis
 11 group.
 12

13 Table 21-9 Proportion of Incompatible Donors Based on Lung Height

Candidate height (cm)	Proportion for Candidates in Diagnosis Groups A and C	Proportion for Candidates in Diagnosis Group B	Proportion for Candidates in Diagnosis Group D
63 or less	0.9949	0.9949	0.9949
64	0.9916	0.9949	0.9949
65	0.9916	0.9949	0.9949
66	0.9899	0.9949	0.9949
67	0.9882	0.9949	0.9949
68	0.9882	0.9949	0.9949
69	0.9882	0.9916	0.9949
70	0.9882	0.9916	0.9949
71	0.9866	0.9882	0.9916
72	0.9866	0.9882	0.9916
73	0.9849	0.9882	0.9899
74	0.9849	0.9882	0.9882
75	0.9849	0.9882	0.9882

Candidate height (cm)	Proportion for Candidates in Diagnosis Groups A and C	Proportion for Candidates in Diagnosis -Group B	Proportion for Candidates in Diagnosis Group D
76	0.9866	0.9866	0.9882
77	0.9849	0.9866	0.9882
78	0.9849	0.9849	0.9866
79	0.9849	0.9849	0.9866
80	0.9849	0.9866	0.9849
81	0.9849	0.9866	0.9849
82	0.9866	0.9849	0.9849
83	0.9866	0.9849	0.9849
84	0.9882	0.9849	0.9833
85	0.9882	0.9849	0.9849
86	0.9882	0.9866	0.9849
87	0.9849	0.9866	0.9849
88	0.9849	0.9882	0.9849
89	0.9849	0.9882	0.9849
90	0.9849	0.9882	0.9849
91	0.9849	0.9882	0.9866
92	0.9833	0.9849	0.9866
93	0.9833	0.9849	0.9882
94	0.9816	0.9849	0.9849
95	0.9816	0.9849	0.9849
96	0.9816	0.9849	0.9849
97	0.9816	0.9833	0.9849
98	0.9816	0.9833	0.9849
99	0.9799	0.9816	0.9833
100	0.9833	0.9816	0.9833
101	0.9833	0.9816	0.9816
102	0.9866	0.9816	0.9816
103	0.9866	0.9816	0.9816
104	0.9866	0.9833	0.9816
105	0.9866	0.9833	0.9816
106	0.9866	0.9849	0.9799
107	0.9866	0.9866	0.9799

Candidate height (cm)	Proportion for Candidates in Diagnosis Groups A and C	Proportion for Candidates in Diagnosis -Group B	Proportion for Candidates in Diagnosis Group D
108	0.9882	0.9866	0.9799
109	0.9882	0.9866	0.9833
110	0.9849	0.9866	0.9833
111	0.9849	0.9882	0.9849
112	0.9833	0.9866	0.9866
113	0.9833	0.9882	0.9866
114	0.9833	0.9882	0.9849
115	0.9799	0.9849	0.9849
116	0.9766	0.9849	0.9866
117	0.9701	0.9833	0.9833
118	0.9619	0.9833	0.9849
119	0.9603	0.9833	0.9833
120	0.9442	0.9799	0.9816
121	0.9394	0.9766	0.9816
122	0.9268	0.9652	0.9799
123	0.9206	0.9603	0.9766
124	0.9175	0.9603	0.9701
125	0.8825	0.9442	0.9619
126	0.8810	0.9394	0.9603
127	0.8247	0.9206	0.9442
128	0.7933	0.9206	0.9394
129	0.7879	0.9175	0.9268
130	0.7130	0.8825	0.9175
131	0.7118	0.8810	0.9144
132	0.6235	0.7986	0.8825
133	0.5776	0.7933	0.8810
134	0.5698	0.7892	0.8247
135	0.4756	0.7130	0.7919
136	0.4359	0.7105	0.7866
137	0.4220	0.6235	0.7118
138	0.3223	0.5776	0.7105
139	0.3129	0.5708	0.6235

Candidate height (cm)	Proportion for Candidates in Diagnosis Groups A and C	Proportion for Candidates in Diagnosis -Group B	Proportion for Candidates in Diagnosis Group D
140	0.2375	0.4435	0.5776
141	0.2106	0.4345	0.5698
142	0.2047	0.4220	0.4748
143	0.1359	0.3223	0.4352
144	0.1316	0.3129	0.4220
145	0.0998	0.2173	0.3223
146	0.0897	0.2091	0.3129
147	0.0865	0.2051	0.2375
148	0.0590	0.1359	0.2106
149	0.0576	0.1316	0.2047
150	0.0447	0.0910	0.1357
151	0.0388	0.0897	0.1314
152	0.0376	0.0869	0.0998
153	0.0226	0.0590	0.0893
154	0.0222	0.0576	0.0862
155	0.0161	0.0401	0.0587
156	0.0142	0.0390	0.0574
157	0.0134	0.0379	0.0447
158	0.0072	0.0227	0.0387
159	0.0070	0.0221	0.0373
160	0.0055	0.0143	0.0221
161	0.0051	0.0142	0.0217
162	0.0049	0.0137	0.0157
163	0.0045	0.0072	0.0137
164	0.0046	0.0070	0.0129
165	0.0046	0.0061	0.0067
166	0.0052	0.0051	0.0066
167	0.0052	0.0059	0.0053
168	0.0080	0.0046	0.0045
169	0.0082	0.0047	0.0043
170	0.0084	0.0061	0.0031
171	0.0133	0.0052	0.0031

Candidate height (cm)	Proportion for Candidates in Diagnosis Groups A and C	Proportion for Candidates in Diagnosis -Group B	Proportion for Candidates in Diagnosis Group D
172	0.0137	0.0073	0.0039
173	0.0163	0.0082	0.0036
174	0.0215	0.0084	0.0037
175	0.0224	0.0136	0.0049
176	0.0362	0.0136	0.0048
177	0.0378	0.0144	0.0068
178	0.0438	0.0215	0.0079
179	0.0617	0.0224	0.0081
180	0.0640	0.0361	0.0132
181	0.0939	0.0375	0.0135
182	0.0955	0.0388	0.0142
183	0.1090	0.0617	0.0215
184	0.1427	0.0639	0.0224
185	0.1458	0.0939	0.0359
186	0.2008	0.0953	0.0373
187	0.2084	0.0987	0.0386
188	0.2128	0.1427	0.0617
189	0.3189	0.1458	0.0639
190	0.3256	0.1823	0.0939
191	0.4397	0.2062	0.0953
192	0.4473	0.2124	0.0987
193	0.4589	0.3189	0.1427
194	0.6440	0.3250	0.1458
195	0.6539	0.4036	0.1823
196	0.7591	0.4435	0.2062
197	0.7668	0.4589	0.2124
198	0.7773	0.6440	0.3189
199	0.8795	0.6539	0.3250
200	0.8840	0.7154	0.4036
201	0.9021	0.7643	0.4435
202	0.9458	0.7773	0.4589
203	0.9458	0.8795	0.6440

Candidate height (cm)	Proportion for Candidates in Diagnosis Groups A and C	Proportion for Candidates in Diagnosis Group B	Proportion for Candidates in Diagnosis Group D
204	0.9684	0.8825	0.6539
205	0.9750	0.8900	0.7154
206	0.9783	0.9458	0.7643
207	0.9882	0.9458	0.7773
208	0.9882	0.9684	0.8795
209	0.9949	0.9733	0.8825
210	0.9949	0.9750	0.8900
211	0.9949	0.9882	0.9458
212	0.9949	0.9882	0.9458
213	0.9966	0.9949	0.9684
214	1.0000	0.9949	0.9733
215	1.0000	0.9949	0.9750
216	1.0000	0.9949	0.9882
217	1.0000	0.9966	0.9882
218	1.0000	1.0000	0.9949
219	1.0000	1.0000	0.9949
220	1.0000	1.0000	0.9949
221	1.0000	1.0000	0.9949
222	1.0000	1.0000	0.9966
223 or more	1.0000	1.0000	1.0000

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Candidate height (cm)	Proportion for Candidates in Diagnosis Groups A and C	Proportion for Candidates in Diagnosis Group B	Proportion for Candidates in Diagnosis Group D
<u>63 or less</u>	<u>0.9989</u>	<u>0.9989</u>	<u>0.9989</u>
<u>64</u>	<u>0.9982</u>	<u>0.9989</u>	<u>0.9989</u>
<u>65</u>	<u>0.9982</u>	<u>0.9989</u>	<u>0.9989</u>
<u>66</u>	<u>0.9978</u>	<u>0.9989</u>	<u>0.9989</u>
<u>67</u>	<u>0.9975</u>	<u>0.9989</u>	<u>0.9989</u>
<u>68</u>	<u>0.9975</u>	<u>0.9989</u>	<u>0.9989</u>
<u>69</u>	<u>0.9975</u>	<u>0.9982</u>	<u>0.9989</u>
<u>70</u>	<u>0.9975</u>	<u>0.9982</u>	<u>0.9989</u>
<u>71</u>	<u>0.9971</u>	<u>0.9975</u>	<u>0.9982</u>

<u>Candidate height (cm)</u>	<u>Proportion for Candidates in Diagnosis Groups A and C</u>	<u>Proportion for Candidates in Diagnosis Group B</u>	<u>Proportion for Candidates in Diagnosis Group D</u>
<u>72</u>	<u>0.9971</u>	<u>0.9975</u>	<u>0.9982</u>
<u>73</u>	<u>0.9967</u>	<u>0.9975</u>	<u>0.9978</u>
<u>74</u>	<u>0.9967</u>	<u>0.9975</u>	<u>0.9975</u>
<u>75</u>	<u>0.9967</u>	<u>0.9975</u>	<u>0.9975</u>
<u>76</u>	<u>0.9971</u>	<u>0.9971</u>	<u>0.9975</u>
<u>77</u>	<u>0.9967</u>	<u>0.9971</u>	<u>0.9975</u>
<u>78</u>	<u>0.9967</u>	<u>0.9967</u>	<u>0.9971</u>
<u>79</u>	<u>0.9967</u>	<u>0.9967</u>	<u>0.9971</u>
<u>80</u>	<u>0.9967</u>	<u>0.9971</u>	<u>0.9967</u>
<u>81</u>	<u>0.9967</u>	<u>0.9971</u>	<u>0.9967</u>
<u>82</u>	<u>0.9971</u>	<u>0.9967</u>	<u>0.9967</u>
<u>83</u>	<u>0.9971</u>	<u>0.9967</u>	<u>0.9967</u>
<u>84</u>	<u>0.9975</u>	<u>0.9967</u>	<u>0.9964</u>
<u>85</u>	<u>0.9975</u>	<u>0.9967</u>	<u>0.9967</u>
<u>86</u>	<u>0.9975</u>	<u>0.9971</u>	<u>0.9967</u>
<u>87</u>	<u>0.9967</u>	<u>0.9971</u>	<u>0.9967</u>
<u>88</u>	<u>0.9967</u>	<u>0.9975</u>	<u>0.9967</u>
<u>89</u>	<u>0.9967</u>	<u>0.9975</u>	<u>0.9967</u>
<u>90</u>	<u>0.9967</u>	<u>0.9975</u>	<u>0.9967</u>
<u>91</u>	<u>0.9967</u>	<u>0.9975</u>	<u>0.9971</u>
<u>92</u>	<u>0.9964</u>	<u>0.9967</u>	<u>0.9971</u>
<u>93</u>	<u>0.9964</u>	<u>0.9967</u>	<u>0.9975</u>
<u>94</u>	<u>0.9960</u>	<u>0.9967</u>	<u>0.9967</u>
<u>95</u>	<u>0.9960</u>	<u>0.9967</u>	<u>0.9967</u>
<u>96</u>	<u>0.9960</u>	<u>0.9967</u>	<u>0.9967</u>
<u>97</u>	<u>0.9960</u>	<u>0.9964</u>	<u>0.9967</u>
<u>98</u>	<u>0.9960</u>	<u>0.9964</u>	<u>0.9967</u>
<u>99</u>	<u>0.9956</u>	<u>0.9960</u>	<u>0.9964</u>
<u>100</u>	<u>0.9964</u>	<u>0.9960</u>	<u>0.9964</u>
<u>101</u>	<u>0.9964</u>	<u>0.9960</u>	<u>0.9960</u>
<u>102</u>	<u>0.9971</u>	<u>0.9960</u>	<u>0.9960</u>
<u>103</u>	<u>0.9971</u>	<u>0.9960</u>	<u>0.9960</u>
<u>104</u>	<u>0.9971</u>	<u>0.9964</u>	<u>0.9960</u>
<u>105</u>	<u>0.9971</u>	<u>0.9964</u>	<u>0.9960</u>
<u>106</u>	<u>0.9971</u>	<u>0.9967</u>	<u>0.9956</u>
<u>107</u>	<u>0.9971</u>	<u>0.9971</u>	<u>0.9956</u>
<u>108</u>	<u>0.9975</u>	<u>0.9971</u>	<u>0.9956</u>
<u>109</u>	<u>0.9975</u>	<u>0.9971</u>	<u>0.9964</u>
<u>110</u>	<u>0.9967</u>	<u>0.9971</u>	<u>0.9964</u>
<u>111</u>	<u>0.9967</u>	<u>0.9975</u>	<u>0.9967</u>
<u>112</u>	<u>0.9964</u>	<u>0.9971</u>	<u>0.9971</u>
<u>113</u>	<u>0.9964</u>	<u>0.9975</u>	<u>0.9971</u>
<u>114</u>	<u>0.9964</u>	<u>0.9975</u>	<u>0.9967</u>

<u>Candidate height (cm)</u>	<u>Proportion for Candidates in Diagnosis Groups A and C</u>	<u>Proportion for Candidates in Diagnosis Group B</u>	<u>Proportion for Candidates in Diagnosis Group D</u>
<u>115</u>	<u>0.9956</u>	<u>0.9967</u>	<u>0.9967</u>
<u>116</u>	<u>0.9949</u>	<u>0.9967</u>	<u>0.9971</u>
<u>117</u>	<u>0.9935</u>	<u>0.9964</u>	<u>0.9964</u>
<u>118</u>	<u>0.9917</u>	<u>0.9964</u>	<u>0.9967</u>
<u>119</u>	<u>0.9913</u>	<u>0.9964</u>	<u>0.9964</u>
<u>120</u>	<u>0.9877</u>	<u>0.9956</u>	<u>0.9960</u>
<u>121</u>	<u>0.9866</u>	<u>0.9949</u>	<u>0.9960</u>
<u>122</u>	<u>0.9837</u>	<u>0.9924</u>	<u>0.9956</u>
<u>123</u>	<u>0.9822</u>	<u>0.9913</u>	<u>0.9949</u>
<u>124</u>	<u>0.9815</u>	<u>0.9913</u>	<u>0.9935</u>
<u>125</u>	<u>0.9731</u>	<u>0.9877</u>	<u>0.9917</u>
<u>126</u>	<u>0.9728</u>	<u>0.9866</u>	<u>0.9913</u>
<u>127</u>	<u>0.9586</u>	<u>0.9822</u>	<u>0.9877</u>
<u>128</u>	<u>0.9503</u>	<u>0.9822</u>	<u>0.9866</u>
<u>129</u>	<u>0.9488</u>	<u>0.9815</u>	<u>0.9837</u>
<u>130</u>	<u>0.9274</u>	<u>0.9731</u>	<u>0.9815</u>
<u>131</u>	<u>0.9270</u>	<u>0.9728</u>	<u>0.9808</u>
<u>132</u>	<u>0.8987</u>	<u>0.9517</u>	<u>0.9731</u>
<u>133</u>	<u>0.8824</u>	<u>0.9503</u>	<u>0.9728</u>
<u>134</u>	<u>0.8795</u>	<u>0.9492</u>	<u>0.9586</u>
<u>135</u>	<u>0.8410</u>	<u>0.9274</u>	<u>0.9499</u>
<u>136</u>	<u>0.8225</u>	<u>0.9267</u>	<u>0.9485</u>
<u>137</u>	<u>0.8156</u>	<u>0.8987</u>	<u>0.9270</u>
<u>138</u>	<u>0.7586</u>	<u>0.8824</u>	<u>0.9267</u>
<u>139</u>	<u>0.7525</u>	<u>0.8799</u>	<u>0.8987</u>
<u>140</u>	<u>0.6947</u>	<u>0.8261</u>	<u>0.8824</u>
<u>141</u>	<u>0.6697</u>	<u>0.8218</u>	<u>0.8795</u>
<u>142</u>	<u>0.6639</u>	<u>0.8156</u>	<u>0.8407</u>
<u>143</u>	<u>0.5800</u>	<u>0.7586</u>	<u>0.8221</u>
<u>144</u>	<u>0.5735</u>	<u>0.7525</u>	<u>0.8156</u>
<u>145</u>	<u>0.5183</u>	<u>0.6762</u>	<u>0.7586</u>
<u>146</u>	<u>0.4973</u>	<u>0.6682</u>	<u>0.7525</u>
<u>147</u>	<u>0.4904</u>	<u>0.6642</u>	<u>0.6947</u>
<u>148</u>	<u>0.4174</u>	<u>0.5800</u>	<u>0.6697</u>
<u>149</u>	<u>0.4131</u>	<u>0.5735</u>	<u>0.6639</u>
<u>150</u>	<u>0.3673</u>	<u>0.5002</u>	<u>0.5797</u>
<u>151</u>	<u>0.3426</u>	<u>0.4973</u>	<u>0.5731</u>
<u>152</u>	<u>0.3372</u>	<u>0.4911</u>	<u>0.5183</u>
<u>153</u>	<u>0.2548</u>	<u>0.4174</u>	<u>0.4966</u>
<u>154</u>	<u>0.2526</u>	<u>0.4131</u>	<u>0.4897</u>
<u>155</u>	<u>0.2069</u>	<u>0.3481</u>	<u>0.4167</u>
<u>156</u>	<u>0.1902</u>	<u>0.3434</u>	<u>0.4123</u>
<u>157</u>	<u>0.1837</u>	<u>0.3387</u>	<u>0.3673</u>

<u>Candidate height (cm)</u>	<u>Proportion for Candidates in Diagnosis Groups A and C</u>	<u>Proportion for Candidates in Diagnosis Group B</u>	<u>Proportion for Candidates in Diagnosis Group D</u>
<u>158</u>	<u>0.1165</u>	<u>0.2555</u>	<u>0.3419</u>
<u>159</u>	<u>0.1143</u>	<u>0.2519</u>	<u>0.3358</u>
<u>160</u>	<u>0.0947</u>	<u>0.1917</u>	<u>0.2515</u>
<u>161</u>	<u>0.0889</u>	<u>0.1909</u>	<u>0.2490</u>
<u>162</u>	<u>0.0857</u>	<u>0.1866</u>	<u>0.2040</u>
<u>163</u>	<u>0.0806</u>	<u>0.1165</u>	<u>0.1858</u>
<u>164</u>	<u>0.0820</u>	<u>0.1140</u>	<u>0.1789</u>
<u>165</u>	<u>0.0809</u>	<u>0.1027</u>	<u>0.1103</u>
<u>166</u>	<u>0.0897</u>	<u>0.0893</u>	<u>0.1089</u>
<u>167</u>	<u>0.0904</u>	<u>0.0998</u>	<u>0.0918</u>
<u>168</u>	<u>0.1267</u>	<u>0.0820</u>	<u>0.0799</u>
<u>169</u>	<u>0.1285</u>	<u>0.0824</u>	<u>0.0770</u>
<u>170</u>	<u>0.1310</u>	<u>0.1027</u>	<u>0.0588</u>
<u>171</u>	<u>0.1822</u>	<u>0.0900</u>	<u>0.0584</u>
<u>172</u>	<u>0.1862</u>	<u>0.1183</u>	<u>0.0708</u>
<u>173</u>	<u>0.2083</u>	<u>0.1296</u>	<u>0.0664</u>
<u>174</u>	<u>0.2479</u>	<u>0.1310</u>	<u>0.0679</u>
<u>175</u>	<u>0.2541</u>	<u>0.1848</u>	<u>0.0857</u>
<u>176</u>	<u>0.3307</u>	<u>0.1855</u>	<u>0.0838</u>
<u>177</u>	<u>0.3379</u>	<u>0.1924</u>	<u>0.1118</u>
<u>178</u>	<u>0.3637</u>	<u>0.2479</u>	<u>0.1252</u>
<u>179</u>	<u>0.4258</u>	<u>0.2541</u>	<u>0.1281</u>
<u>180</u>	<u>0.4327</u>	<u>0.3303</u>	<u>0.1815</u>
<u>181</u>	<u>0.5064</u>	<u>0.3368</u>	<u>0.1840</u>
<u>182</u>	<u>0.5096</u>	<u>0.3423</u>	<u>0.1909</u>
<u>183</u>	<u>0.5358</u>	<u>0.4258</u>	<u>0.2479</u>
<u>184</u>	<u>0.5898</u>	<u>0.4323</u>	<u>0.2537</u>
<u>185</u>	<u>0.5942</u>	<u>0.5064</u>	<u>0.3292</u>
<u>186</u>	<u>0.6599</u>	<u>0.5093</u>	<u>0.3358</u>
<u>187</u>	<u>0.6675</u>	<u>0.5162</u>	<u>0.3416</u>
<u>188</u>	<u>0.6719</u>	<u>0.5898</u>	<u>0.4258</u>
<u>189</u>	<u>0.7564</u>	<u>0.5942</u>	<u>0.4323</u>
<u>190</u>	<u>0.7608</u>	<u>0.6399</u>	<u>0.5064</u>
<u>191</u>	<u>0.8243</u>	<u>0.6653</u>	<u>0.5093</u>
<u>192</u>	<u>0.8279</u>	<u>0.6715</u>	<u>0.5162</u>
<u>193</u>	<u>0.8334</u>	<u>0.7564</u>	<u>0.5898</u>
<u>194</u>	<u>0.9056</u>	<u>0.7604</u>	<u>0.5942</u>
<u>195</u>	<u>0.9089</u>	<u>0.8062</u>	<u>0.6399</u>
<u>196</u>	<u>0.9408</u>	<u>0.8261</u>	<u>0.6653</u>
<u>197</u>	<u>0.9430</u>	<u>0.8334</u>	<u>0.6715</u>
<u>198</u>	<u>0.9459</u>	<u>0.9056</u>	<u>0.7564</u>
<u>199</u>	<u>0.9724</u>	<u>0.9089</u>	<u>0.7604</u>
<u>200</u>	<u>0.9735</u>	<u>0.9281</u>	<u>0.8062</u>

<u>Candidate height (cm)</u>	<u>Proportion for Candidates in Diagnosis Groups A and C</u>	<u>Proportion for Candidates in Diagnosis Group B</u>	<u>Proportion for Candidates in Diagnosis Group D</u>
<u>201</u>	<u>0.9779</u>	<u>0.9423</u>	<u>0.8261</u>
<u>202</u>	<u>0.9880</u>	<u>0.9459</u>	<u>0.8334</u>
<u>203</u>	<u>0.9880</u>	<u>0.9724</u>	<u>0.9056</u>
<u>204</u>	<u>0.9931</u>	<u>0.9731</u>	<u>0.9089</u>
<u>205</u>	<u>0.9946</u>	<u>0.9750</u>	<u>0.9281</u>
<u>206</u>	<u>0.9953</u>	<u>0.9880</u>	<u>0.9423</u>
<u>207</u>	<u>0.9975</u>	<u>0.9880</u>	<u>0.9459</u>
<u>208</u>	<u>0.9975</u>	<u>0.9931</u>	<u>0.9724</u>
<u>209</u>	<u>0.9989</u>	<u>0.9942</u>	<u>0.9731</u>
<u>210</u>	<u>0.9989</u>	<u>0.9946</u>	<u>0.9750</u>
<u>211</u>	<u>0.9989</u>	<u>0.9975</u>	<u>0.9880</u>
<u>212</u>	<u>0.9989</u>	<u>0.9975</u>	<u>0.9880</u>
<u>213</u>	<u>0.9993</u>	<u>0.9989</u>	<u>0.9931</u>
<u>214</u>	<u>1.0000</u>	<u>0.9989</u>	<u>0.9942</u>
<u>215</u>	<u>1.0000</u>	<u>0.9989</u>	<u>0.9946</u>
<u>216</u>	<u>1.0000</u>	<u>0.9989</u>	<u>0.9975</u>
<u>217</u>	<u>1.0000</u>	<u>0.9993</u>	<u>0.9975</u>
<u>218</u>	<u>1.0000</u>	<u>1.0000</u>	<u>0.9989</u>
<u>219</u>	<u>1.0000</u>	<u>1.0000</u>	<u>0.9989</u>
<u>220</u>	<u>1.0000</u>	<u>1.0000</u>	<u>0.9989</u>
<u>221</u>	<u>1.0000</u>	<u>1.0000</u>	<u>0.9989</u>
<u>222</u>	<u>1.0000</u>	<u>1.0000</u>	<u>0.9993</u>
<u>223 or more</u>	<u>1.0000</u>	<u>1.0000</u>	<u>1.0000</u>

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