78-16
RECOMPRESSION TREATMENT TABLES USED THROUGHOUT THE WORLD BY GOVERNMENT AND INDUSTRY
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This review article covers the history of recompression procedures in the U.S. Navy and surveys the procedures that have been used throughout the world. The information is compiled to serve as a statement-of-the-art document with the expressed purpose of reevaluating recompression procedure in an effort to improve its efficacy.
# Table of Contents

<table>
<thead>
<tr>
<th>Preface</th>
<th>iv</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acknowledgments</td>
<td>iv</td>
</tr>
<tr>
<td>Background</td>
<td>1</td>
</tr>
<tr>
<td><strong>U.S. Navy Treatment Tables</strong></td>
<td></td>
</tr>
<tr>
<td>Fig. 1. 1943 100-Foot Air Treatment Table</td>
<td>8</td>
</tr>
<tr>
<td>Fig. 2. 1943 150-Foot Air Treatment Table</td>
<td>9</td>
</tr>
<tr>
<td>Fig. 3. 1943 200-Foot Air Treatment Table</td>
<td>10</td>
</tr>
<tr>
<td>Fig. 4. 1943 250-Foot Air Treatment Table</td>
<td>11</td>
</tr>
<tr>
<td>Fig. 5. 1943 300-Foot Air Treatment Table</td>
<td>12</td>
</tr>
<tr>
<td>Fig. 6. 1944 Air Recompression Treatment Table</td>
<td>13</td>
</tr>
<tr>
<td>Fig. 7. 1944 Recompression Treatment Table with Oxygen</td>
<td>14</td>
</tr>
<tr>
<td>Fig. 8. 1944 Short Air Recompression Treatment Table</td>
<td>15</td>
</tr>
<tr>
<td>Fig. 9. 1944 Short Oxygen Recompression Treatment Table</td>
<td>16</td>
</tr>
<tr>
<td>Fig. 10. 1944 Long Air Recompression Treatment Table</td>
<td>17</td>
</tr>
<tr>
<td>Fig. 11. 1944 Long Oxygen Recompression Treatment Table</td>
<td>18</td>
</tr>
<tr>
<td>Fig. 12. Recompression Treatment Table 1</td>
<td>19</td>
</tr>
<tr>
<td>Fig. 13. Recompression Treatment Table 1A</td>
<td>20</td>
</tr>
<tr>
<td>Fig. 14. Recompression Treatment Table 2</td>
<td>21</td>
</tr>
<tr>
<td>Fig. 15. Recompression Treatment Table 2A</td>
<td>22</td>
</tr>
<tr>
<td>Fig. 16. Recompression Treatment Table 3</td>
<td>23</td>
</tr>
<tr>
<td>Fig. 17. Recompression Treatment Table 4</td>
<td>24</td>
</tr>
<tr>
<td>Fig. 18. Recompression Treatment Table 5</td>
<td>25</td>
</tr>
<tr>
<td>Fig. 19. Recompression Treatment Table 5A</td>
<td>26</td>
</tr>
<tr>
<td>Fig. 20. Recompression Treatment Table 6</td>
<td>27</td>
</tr>
<tr>
<td>Fig. 21. Recompression Treatment Table 6A</td>
<td>28</td>
</tr>
<tr>
<td>Fig. 22. Treatment Procedure for Decompression Sickness Occurring on Saturation Dives</td>
<td>29</td>
</tr>
<tr>
<td>Fig. 23. TEKTITE I AND II TREATMENT AND EMERGENCY DECOMPRESSION SCHEDULE FOR A 42- TO 50-FOOT SATURATION DIVE</td>
<td>30</td>
</tr>
<tr>
<td>Fig. 24. TEKTITE II TREATMENT AND EMERGENCY DECOMPRESSION SCHEDULE FOR THE 100-FOOT SATURATION DIVE</td>
<td>31</td>
</tr>
<tr>
<td><strong>Royal Navy Treatment Tables</strong></td>
<td></td>
</tr>
<tr>
<td>Fig. 25. 1943 Recompression Treatment Procedure</td>
<td>32</td>
</tr>
<tr>
<td>Fig. 26. Decompression Sickness Charts</td>
<td>33</td>
</tr>
<tr>
<td>Fig. 27. Table 51--Air Recompression Therapy</td>
<td>34</td>
</tr>
<tr>
<td>Fig. 28. Table 52--Air Recompression Therapy</td>
<td>35</td>
</tr>
<tr>
<td>Fig. 29. Table 53--Air Recompression Therapy</td>
<td>36</td>
</tr>
<tr>
<td>Fig. 30. Table 54--Air Recompression Therapy</td>
<td>37</td>
</tr>
<tr>
<td>Fig. 31. Table 55--Air Recompression Therapy</td>
<td>38</td>
</tr>
<tr>
<td>Fig. 32. Table 61--Oxygen Recompression Therapy</td>
<td>39</td>
</tr>
<tr>
<td>Fig. 33. Table 62--Oxygen Recompression Therapy</td>
<td>40</td>
</tr>
<tr>
<td>Fig. 34. Table 71--Modified Air Recompression Table</td>
<td>41</td>
</tr>
</tbody>
</table>
# TABLE OF CONTENTS (CONT'D)

**ROYAL NAVY TREATMENT TABLES**

| Fig. 35. | Table 72--Modified Air Recompression Therapy | 42 |
| Fig. 36. | Table 81--Emergency Therapy in the Water | 43 |
| Fig. 37. | RNPL THERAPEUTIC DECOMPRESSION FROM A HELIUM-OXYGEN RECOMPRESSION | 44 |
| Fig. 38. | CIRIA UNDERWATER ENGINEERING OXYGEN RECOMPRESSION THERAPY | 45 |

**FRENCH NAVY TREATMENT TABLES**

| Fig. 39. | Recompression Treatment Table 1 | 46 |
| Fig. 40. | Recompression Treatment Table 2 | 47 |
| Fig. 41. | Recompression Treatment Table 3 | 48 |
| Fig. 42. | Recompression Treatment Table 4 | 49 |
| Fig. 43. | Recompression Treatment Table 4A | 50 |
| Fig. 44. | Air Recompression Treatment Table | 51 |
| Fig. 45. | Air Recompression Treatment Table | 52 |
| Fig. 46. | High-Oxygen Recompression Treatment Table | 53 |
| Fig. 47. | COMEX Treatment of Decompression Sickness Table | 54 |
| Fig. 48. | Recompression Treatment Table A | 55 |
| Fig. 49. | Recompression Treatment Table B | 56 |
| Fig. 50. | Recompression Treatment Table C | 57 |
| Fig. 51. | Recompression Treatment Table D | 58 |
| Fig. 52. | Recompression Treatment Table 1A | 59 |
| Fig. 53. | Recompression Treatment Table 2A | 60 |
| Fig. 54. | Recompression Treatment Table 3A | 61 |

**COMEX TREATMENT TABLES**

| Fig. 55. | Accidents Following Decompression | 62 |
| Fig. 56. | Accidents Following Shortened Decompression | 63 |
| Fig. 57. | Accidents Following Shortened Decompression involving Hyperoxic Crisis | 64 |
| Fig. 58. | Therapeutic Table CX 12 | 65 |
| Fig. 59. | Therapeutic Table 18C | 66 |
| Fig. 60. | Therapeutic Table 18L | 67 |
| Fig. 61. | Therapeutic Table CX 30 | 68 |
| Fig. 62. | Therapeutic Table CX 30A | 69 |
| Fig. 63. | Therapeutic Table CX 30AL | 70 |

**RUSSIAN TREATMENT TABLES**

| Fig. 64. | Therapeutic Recompression Regimen I | 71 |
| Fig. 65. | Therapeutic Recompression Regimen II | 72 |
| Fig. 66. | Therapeutic Recompression Regimen III | 73 |
| Fig. 67. | Therapeutic Recompression Regimen IV | 74 |
| Fig. 68. | Therapeutic Recompression Regimen V | 75 |
TABLE OF CONTENTS (CONT'D)

GERMAN RENDSBURG TUNNEL PROJECT TABLES

<table>
<thead>
<tr>
<th>Fig. 69.</th>
<th>Short Air Recompression Treatment Table</th>
<th>76</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fig. 70.</td>
<td>Short Oxygen Treatment Table</td>
<td>77</td>
</tr>
<tr>
<td>Fig. 71.</td>
<td>Intermediate Air/Oxygen Treatment Table</td>
<td>78</td>
</tr>
<tr>
<td>Fig. 72.</td>
<td>Long Air/Oxygen Treatment Table</td>
<td>79</td>
</tr>
</tbody>
</table>

REFERENCES ........................................................................... 80
PREFACE

In many areas of endeavor we tend to perpetuate ideas without fully understanding their origins or without seeking contrary opinions. One such area is recompression therapy for diving casualty. Since the late 1800's, recompression of diving casualties has been accepted as the treatment of choice. This acceptance, however, has been based primarily upon clinical experience; very little experimental data are available on the topic. The clinical evidence is of limited value because so many diving organizations have adopted the procedures of the U.S. Navy and thus have restricted their experience. The authors believe it is the time to take a fresh look at recompression procedure in an effort to improve its efficacy. This report is intended as a starting point for such reevaluation. It should be considered a statement-of-the-art document in that it covers the history of recompression procedures in the U.S. Navy and surveys the procedures used throughout the world. We hope this compilation of treatment tables, along with the brief history, will be helpful to the diving community.

The inclusion of a treatment table in this report is in no way meant to be an endorsement of the table for use in recompression therapy. In fact, some of the older tables in this report are downright dangerous.

ACKNOWLEDGMENTS

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Naval Medical Research and Development Command, Research Task M0099-PN.001-1190. The opinions and assertions contained herein are the private ones of the writers and are not to be construed as official or reflecting the views of the Navy Department or the Naval Service at large.

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BACKGROUND

The affliction (decompression sickness) identified by Pol and Watelle (1854) and later described by Bert (1878) opened a new research area for preventive and therapeutic medicine. The decompression procedures developed by Haldane in the early 1900's greatly reduced the incidence of decompression sickness to a manageable level, but Haldane's approach and its subsequent modifications have not eliminated the problem. Because a certain percentage of persons undergoing decompression are going to be stricken with decompression sickness, an adequate therapeutic regimen will always be necessary.

The beneficial effects of recompression were recognized early. During the building of the Brooklyn Bridge, Smith (1873) had a special iron treatment lock (9 ft by 3 1/2 ft) built. Workers stricken with decompression sickness were recompressed in this lock to a pressure equal to that at which they had been working previously; when the pain was relieved, the pressure was gradually reduced over a period of several hours.

Overwhelming evidence that recompression was the treatment of choice in handling decompression sickness was provided by Keays in 1909. But recompression treatment procedures varied depending upon who was in charge. Neither the extent of recompression nor the subsequent decompression schedule were standardized in any way. Ryan (1912) suggested that recompression should be to a pressure equivalent to two-thirds of the original working pressure. In 1917 the New York Public Service Commission adopted the policy of recompressing stricken patients to the pressure at which they had been working originally (Levy 1917). Recompression treatment procedures made little significant progress until about 1920 because of the lack of experimental data and the fragmented, nonuniform clinical evidence. In 1924 the U.S. Navy published in its Diving Manual the first standard recompression treatment procedure.

The results of treatments using the Navy's air recompression procedure were not completely successful. Over 50% of the individuals treated suffered a recurrence of symptoms. The air treatment afforded relief in mild cases of decompression sickness, but often failed in the more serious cases.

Several early investigators had suggested, based on theoretical grounds, that the use of oxygen might be beneficial in the treatment of decompression sickness. In 1937 Behnke and Shaw conducted empirical research on the subject, and in 1944 an oxygen treatment table was promulgated in a News Letter distributed by the Bureau of Medicine and Surgery, U.S. Department of the Navy. Reports from the field and experience at the Navy Experimental Diving Unit showed that neither the new oxygen treatment table nor the air treatment table included in a U.S. Navy Diving Manual available in 1942 produced the desired therapeutic results. Recurrence of symptoms still ran about 50% of those treated. To verify field reports and to formulate adequate and comprehensive tables for the treatment of decompression sickness and air embolism, investigators at the Naval Medical Research Institute (NMRI) and the Navy Experimental Diving Unit (NEDU) performed a series of tests (Van Der Aue, White, Hayter, Brinton, Kellar, and Behnke 1945). The details and experimental results of this study will be considered in depth.
because of their impact on treatment procedures used here and around the world.

In these experiments, 33 Navy enlisted men served as subjects who made hard-working dives to 130 feet for 1 hour using standard U.S. Navy decompression schedules. The subjects were recompressed on the treatment table under evaluation 30 to 60 minutes after surfacing from the dive.

To allow the reader access to the actual results obtained, we quote verbatim the results from Van Der Aue, O. E., W. A. White, Jr., R. Hayter, E. S. Brinton, R. J. Kellar, and A. R. Behnke. 1945. Physiological factors underlying the prevention and treatment of decompression sickness. Project X-443, Rpt. No. 1, U.S. Naval Medical Research Institute, Bethesda, Md., 26 April.

The purpose of a work dive prior to the application of the treatment table was to saturate the body tissues with nitrogen to such degree that a second exposure unless followed by prolonged decompression would be certain to produce bends. For example, following a work dive, the application of the treatment decompression outlined in the table published in the BUMED News Letter gave rise to bends in six out of ten individuals and it was necessary to recompress three of the men in order to alleviate symptoms. When the treatment table, however, was modified to include an additional hour of decompression, no symptoms developed. This illustrates the critical nature of the time factor that separates safe treatment from treatment that is inadequate.

The failure of bends to develop following the application of the second or "treatment" decompression was, therefore, the criterion used to determine adequacy of treatment. (p. 4)

Experimental Results [pp. 5-8]

Tests of the BUMED News Letter 165-foot air-oxygen treatment table.- This table provides for the following treatment for patients whose only symptom is pain:

<table>
<thead>
<tr>
<th>Depth (feet of sea water)</th>
<th>165</th>
<th>140</th>
<th>120</th>
<th>100</th>
<th>80</th>
<th>60</th>
<th>50</th>
<th>40</th>
<th>To surface</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time at depth (minutes)</td>
<td>30</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>30*</td>
<td>30*</td>
<td>30*</td>
<td>5*</td>
</tr>
</tbody>
</table>

*Breathing oxygen.

Ten subjects were exposed to the pressures of the table one hour after the wet dive. Three subjects (Abe, May, Cun) developed joint pain requiring recompression for relief after completion of the treatment table. Three subjects (Pac, Sim, Bun) had mild pain lasting fifteen to twenty minutes
but recompression was not necessary to relieve the pain...† This confirmed
the field reports that the 165-foot treatment table was not entirely
satisfactory.

Tests of modifications of the Bumed News Letter 165-foot treatment table. -
In an attempt to rectify the apparent inadequacies of the table, an additional
thirty minutes of oxygen breathing was added at 30 feet according to the follow-
ing table:

<table>
<thead>
<tr>
<th>Depth (feet of sea water)</th>
<th>165</th>
<th>140</th>
<th>120</th>
<th>100</th>
<th>80</th>
<th>60</th>
<th>50</th>
<th>40</th>
<th>30</th>
<th>To surface</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time at depth (minutes)</td>
<td>30</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>30*</td>
<td>30*</td>
<td>30*</td>
<td>30*</td>
<td>5*</td>
</tr>
</tbody>
</table>

*Breathing oxygen.

One of the two divers subjected to this modified table developed joint pain
requiring recompression after surfacing....These findings indicated that
the table as modified was not satisfactory.

The addition of sixty minutes of oxygen breathing at 30 feet was required
to make the table effective:

<table>
<thead>
<tr>
<th>Depth (feet of sea water)</th>
<th>165</th>
<th>140</th>
<th>120</th>
<th>100</th>
<th>80</th>
<th>60</th>
<th>50</th>
<th>40</th>
<th>30</th>
<th>To surface</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time at depth (minutes)</td>
<td>30</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>30*</td>
<td>30*</td>
<td>30*</td>
<td>60*</td>
<td>5*</td>
</tr>
</tbody>
</table>

*Breathing oxygen.

Following the work dive three men (Kos, Kra, and Kos) developed bends within
a period of one hour after decompression. To these three and the remaining
eight men performing the work dive, the above outlined table of recompression
was applied. Bends did not develop or recur subsequently....There were no
symptoms indicative of oxygen poisoning.

Tests of 165-foot air treatment tables. - The following modification of
the air treatment table of the Bumed News Letter was tested:

<table>
<thead>
<tr>
<th>Depth (feet of sea water)</th>
<th>165</th>
<th>140</th>
<th>120</th>
<th>100</th>
<th>80</th>
<th>60</th>
<th>50</th>
<th>40</th>
<th>30</th>
<th>20</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time at depth (minutes)</td>
<td>30</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>240</td>
<td>120</td>
<td>120</td>
</tr>
</tbody>
</table>

Two subjects exposed to the pressure of this table one hour after the 130-foot
dive and four subjects exposed thirty minutes after the dive complained of
fatigue following the test....

†References to table numbers in the quoted report have been deleted to avoid
confusion with table numbers pertinent to the present report.
The table was further modified as follows:

<table>
<thead>
<tr>
<th>Depth (feet of sea water)</th>
<th>165</th>
<th>140</th>
<th>120</th>
<th>100</th>
<th>80</th>
<th>60</th>
<th>50</th>
<th>40</th>
<th>30</th>
<th>20</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time at depth (minutes)</td>
<td>30</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>120</td>
<td>120</td>
<td>240</td>
</tr>
</tbody>
</table>

Two subjects were exposed to the pressures of this table one hour after the 130-foot dive and four subjects thirty minutes after the dive. All the subjects remained completely asymptomatic.

Tests of a 100-foot air-oxygen treatment table.- The following table, developed by Yarbrough and Behnke (2) and Behnke (7), was tested:

<table>
<thead>
<tr>
<th>Depth (feet of sea water)</th>
<th>100</th>
<th>80</th>
<th>60</th>
<th>50</th>
<th>40</th>
<th>To surface</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time of depth (minutes)</td>
<td>30</td>
<td>12</td>
<td>30*</td>
<td>30*</td>
<td>30*</td>
<td>5*</td>
</tr>
</tbody>
</table>

*Breathing oxygen.

Tests were performed under two conditions: (a) one hour after exposure to the usual 130-foot dive and (b) thirty minutes after the 130-foot dive. None of twelve subjects exposed to the pressures of this treatment table thirty minutes after the wet dive developed symptoms of caisson disease. Twelve subjects remained asymptomatic after exposure to the pressures of this treatment table one hour after the 130-foot dive. This table was considered to be satisfactory.

Tests of a 100-foot air treatment table.- The following 100-foot air treatment table, a modification of the 150-foot air treatment table of the Diving Manual (7), was devised:

<table>
<thead>
<tr>
<th>Depth (feet of sea water)</th>
<th>100</th>
<th>80</th>
<th>60</th>
<th>50</th>
<th>40</th>
<th>30</th>
<th>20</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time at depth (minutes)</td>
<td>30</td>
<td>12</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>60</td>
<td>60</td>
<td>120</td>
</tr>
</tbody>
</table>

The table was tested under two conditions: (a) thirty minutes after exposure to the usual 130-foot dive and (b) one hour after the 130-foot dive. None of eight subjects had symptoms of caisson disease following exposure to the pressures of the treatment table thirty minutes after the wet dive. All three subjects were asymptomatic after exposure to the treatment table one hour after the wet dive. This table was also considered to be satisfactory.
Tests of treatment tables providing for prolonged recompression.—The following table was tested without a preceding 130-foot dive:

<table>
<thead>
<tr>
<th>Depth (feet of sea water)</th>
<th>165</th>
<th>140</th>
<th>120</th>
<th>100</th>
<th>80</th>
<th>60</th>
<th>50</th>
<th>40</th>
<th>30</th>
<th>20</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time at depth (minutes)</td>
<td>120</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12*</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
</tbody>
</table>

*Breathing oxygen.

Six subjects were exposed to the pressures of this table. All the subjects were extremely fatigued on surfacing. Three subjects developed substernal soreness on deep inspiration at the 60-foot depth while breathing oxygen and one who did not breathe oxygen also suffered from substernal soreness after three hours at 60 feet. Two subjects had numbness of the fingers throughout the period of oxygen breathing and one had mild nausea during the last thirty minutes of oxygen breathing. Four subjects developed joint pain after surfacing, two of whom required recompression for relief of the symptom....It appeared that the table was faulty in the following respects: too rapid decompression from 165 to 60 feet, the danger of oxygen poisoning as a result of the two-hour period of oxygen breathing at 60 feet, prolonged breathing of dense air at 60 feet, and too rapid decompression from 60 feet to the surface.

The table was modified as follows:

<table>
<thead>
<tr>
<th>Depth (feet of sea water)</th>
<th>165</th>
<th>140</th>
<th>120</th>
<th>100</th>
<th>80</th>
<th>60</th>
<th>50</th>
<th>40</th>
<th>30</th>
<th>20</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time at depth (minutes)</td>
<td>120</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
</tbody>
</table>

Six subjects were exposed to the pressures of this table without a previous wet dive. None developed joint pain, paresthesias, substernal soreness or nausea, but all were moderately fatigued after surfacing. Two subjects developed moderate frontal headache, one at the 20-foot depth and the other six hours after surfacing....

Tests of a decompression table for tenders.—The following table was tested:

<table>
<thead>
<tr>
<th>Depth (feet of sea water)</th>
<th>165</th>
<th>140</th>
<th>120</th>
<th>100</th>
<th>80</th>
<th>60</th>
<th>50</th>
<th>40</th>
<th>30</th>
<th>To surface</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time at depth (minutes)</td>
<td>30</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>60*</td>
<td>5*</td>
</tr>
</tbody>
</table>

*Breathing oxygen.
Ten subjects were exposed to the pressures of this table without a preceding wet dive. None of the subjects developed symptoms of caisson disease.

The results of the Van Der Aue, et al. (1945) study provided the treatment tables that were used by the U.S. Navy and many foreign countries until about 1965. It is interesting to note that these widely accepted treatment procedures are based upon a study involving only 33 subjects and that some of the individual treatment tables are based on as few as 6 subjects. Another interesting point is that in most cases the treated subjects did not actually have manifest symptoms of decompression sickness prior to the therapeutic recompression. In several instances they were symptom-free prior to recompression-experienced decompression sickness during the treatment. The treatment tables were extended until all subjects could tolerate both the initial pressure exposure and the therapeutic recompression without manifesting symptoms of decompression sickness.

This study and the resulting recompression treatment tables stood as the U.S. Navy's treatment procedure for the next 20 years. During this time these tables, or slight modifications of them, were adopted by several foreign navies and numerous foreign and domestic commercial companies. As evidence accumulated it became apparent that the success rate for the more severe cases of decompression sickness was considerably lower than desired. Rivera (1964) published a statistical evaluation of the treatment tables, which showed the following success rates following an initial recompression and after repeated treatments.

<table>
<thead>
<tr>
<th>Treatment table</th>
<th>Success rate following first recompression (%)</th>
<th>Final success rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>92</td>
<td>100</td>
</tr>
<tr>
<td>1A</td>
<td>86</td>
<td>98</td>
</tr>
<tr>
<td>2</td>
<td>91</td>
<td>99</td>
</tr>
<tr>
<td>2A</td>
<td>93</td>
<td>99</td>
</tr>
<tr>
<td>3 O₂</td>
<td>80</td>
<td>96</td>
</tr>
<tr>
<td>3 Air</td>
<td>55</td>
<td>90</td>
</tr>
<tr>
<td>4 Air</td>
<td>42</td>
<td>61</td>
</tr>
<tr>
<td>4 O₂</td>
<td>33</td>
<td>42</td>
</tr>
<tr>
<td>4 He-0₂</td>
<td></td>
<td>42</td>
</tr>
</tbody>
</table>

Failure rates for the initial recompression and lack of success in treating severe cases of decompression sickness led Goodman and Workman (1965) to the development of the minimal-recompression oxygen treatment table. Often called simply "the oxygen treatment table," it has been widely used throughout the world. It is still the treatment of choice.

The one area in which a recompression treatment problem still exists is in the handling of decompression sickness cases in which the symptoms appear while the patient is still exposed to increased ambient pressure. Such cases often occur during deep saturation dives and excursion dives from saturation depths.
Berghaüe (1976) reports that the initial recompression success rate in treating these cases is only about 35%. Future research efforts must focus attention on this problem area.

The compilation of treatment tables provided on the following pages was undertaken to provide a treatment-table reference guide for those activities engaged in hyperbaric medicine. It could also provide a starting point for future recompression-therapy research. It is hoped that this compilation of treatment tables along with the brief history of the development of the U.S. Navy tables will be helpful to the diving community.
U.S. NAVY 1943 100-FOOT AIR TREATMENT TABLE*

1. Use--treatment of decompression sickness where relief is obtained at or less than a depth of 66 feet.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (min)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours) (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>30</td>
<td>30 Air</td>
<td>34</td>
</tr>
<tr>
<td>40</td>
<td>12</td>
<td>14 Air</td>
<td>51</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>42 Air</td>
<td>1 34</td>
</tr>
<tr>
<td>20</td>
<td>6</td>
<td>52 Air</td>
<td>2 27</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>68 Air</td>
<td>3 36</td>
</tr>
<tr>
<td>10-0</td>
<td>3-0</td>
<td>1 Air</td>
<td>3 37</td>
</tr>
</tbody>
</table>

2. Descent rate--25 ft/min (7.6 m/min).

3. Ascent rate--less than 25 ft/min (7.6 m/min).

4. Time at treatment depth does not include the compression time. Compression to a depth of relief, or to 100 feet, whichever is deeper.


---

**FIGURE 1**

**DESCENT RATE 25 FT/MIN (7.6 m/MIN)**

**ASCENT RATE LESS THAN 25 FT/MIN (7.6 m/MIN)**

**TOTAL ELAPSED TIME 3 HOURS 37 MINUTES**
U.S. NAVY 1943 150-FOOT AIR TREATMENT TABLE*

1. Use--treatment of decompression sickness where relief is obtained at or less than a depth of 116 feet.

2. Descent rate--25 ft/min (7.6 m/min).

3. Ascent rate--less than 25 ft/min (7.6 m/min) between stops.

4. Time at treatment depth does not include the compression time. Compression is carried out to a depth 34 feet deeper than the depth of relief. If relief is obtained at a depth between 101 and 116 feet, use the decompression procedure listed.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (min)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours) (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>150</td>
<td>46</td>
<td>30 Air</td>
<td>1 36</td>
</tr>
<tr>
<td>60</td>
<td>18</td>
<td>22 Air</td>
<td>1 33</td>
</tr>
<tr>
<td>50</td>
<td>15</td>
<td>30 Air</td>
<td>1 33</td>
</tr>
<tr>
<td>40</td>
<td>12</td>
<td>35 Air</td>
<td>2 9</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>42 Air</td>
<td>2 52</td>
</tr>
<tr>
<td>20</td>
<td>6</td>
<td>52 Air</td>
<td>3 45</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>68 Air</td>
<td>4 54</td>
</tr>
<tr>
<td>10-0</td>
<td>3-0</td>
<td>1 Air</td>
<td>4 55</td>
</tr>
</tbody>
</table>

U.S. NAVY 1943 200-FOOT AIR TREATMENT TABLE*

1. Use—treatment of decompression sickness where relief is obtained at or less than a depth of 166 feet.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (min)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours) (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>61</td>
<td>Air</td>
<td>38</td>
</tr>
<tr>
<td>190</td>
<td>72</td>
<td>Air</td>
<td>50</td>
</tr>
<tr>
<td>80</td>
<td>24</td>
<td>Air</td>
<td>13</td>
</tr>
<tr>
<td>70</td>
<td>21</td>
<td>Air</td>
<td>38</td>
</tr>
<tr>
<td>60</td>
<td>18</td>
<td>Air</td>
<td>5</td>
</tr>
<tr>
<td>50</td>
<td>15</td>
<td>Air</td>
<td>35</td>
</tr>
<tr>
<td>40</td>
<td>12</td>
<td>Air</td>
<td>12</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>Air</td>
<td>55</td>
</tr>
<tr>
<td>20</td>
<td>6</td>
<td>Air</td>
<td>48</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>Air</td>
<td>57</td>
</tr>
<tr>
<td>10-0</td>
<td>3-0</td>
<td>Air</td>
<td>58</td>
</tr>
</tbody>
</table>

2. Descent rate—25 ft/min (7.6 m/min).
3. Ascent rate—less than 25 ft/min (7.6 m/min) between stops.
4. Time at treatment depth does not include the compression time. Compression is carried out to a depth 34 feet deeper than the depth of relief. If relief is obtained at a depth between 151 and 166 feet, use the decompression procedure listed.

### U.S. NAVY 1943 250-FOOT AIR TREATMENT TABLE

1. Use—treatment of decompression sickness where relief is obtained at or less than a depth of 216 feet.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (min)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours) (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>250</td>
<td>30</td>
<td>Air</td>
<td>40</td>
</tr>
<tr>
<td>110</td>
<td>13</td>
<td>Air</td>
<td>59</td>
</tr>
<tr>
<td>100</td>
<td>18</td>
<td>Air</td>
<td>1 18</td>
</tr>
<tr>
<td>90</td>
<td>19</td>
<td>Air</td>
<td>1 38</td>
</tr>
<tr>
<td>80</td>
<td>22</td>
<td>Air</td>
<td>2 26</td>
</tr>
<tr>
<td>70</td>
<td>24</td>
<td>Air</td>
<td>2 26</td>
</tr>
<tr>
<td>60</td>
<td>26</td>
<td>Air</td>
<td>2 53</td>
</tr>
<tr>
<td>50</td>
<td>30</td>
<td>Air</td>
<td>3 24</td>
</tr>
<tr>
<td>40</td>
<td>35</td>
<td>Air</td>
<td>4 0</td>
</tr>
<tr>
<td>30</td>
<td>42</td>
<td>Air</td>
<td>4 43</td>
</tr>
<tr>
<td>20</td>
<td>52</td>
<td>Air</td>
<td>5 36</td>
</tr>
<tr>
<td>10</td>
<td>68</td>
<td>Air</td>
<td>6 45</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>Air</td>
<td>6 46</td>
</tr>
</tbody>
</table>

2. Descent rate—25 ft/min (7.6 m/min).

3. Ascent rate—less than 25 ft/min (7.6 m/min) between stops.

4. Time at treatment depth does not include the compression time. Compression is carried out to a depth 34 feet deeper than the depth of relief. If relief is obtained at a depth between 201 and 216 feet, use the decompression procedure 1 listed.

---

*U.S. Navy Diving Manual (1943).*
**U.S. NAVY 1943 300-FOOT AIR TREATMENT TABLE**

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (min)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours) (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>300</td>
<td>91</td>
<td>Air</td>
<td>42</td>
</tr>
<tr>
<td>140</td>
<td>43</td>
<td>Air</td>
<td>53</td>
</tr>
<tr>
<td>130</td>
<td>40</td>
<td>Air</td>
<td>8</td>
</tr>
<tr>
<td>120</td>
<td>37</td>
<td>Air</td>
<td>125</td>
</tr>
<tr>
<td>110</td>
<td>34</td>
<td>Air</td>
<td>42</td>
</tr>
<tr>
<td>100</td>
<td>30</td>
<td>Air</td>
<td>2</td>
</tr>
<tr>
<td>90</td>
<td>27</td>
<td>Air</td>
<td>21</td>
</tr>
<tr>
<td>80</td>
<td>24</td>
<td>Air</td>
<td>44</td>
</tr>
<tr>
<td>70</td>
<td>21</td>
<td>Air</td>
<td>9</td>
</tr>
<tr>
<td>60</td>
<td>18</td>
<td>Air</td>
<td>36</td>
</tr>
<tr>
<td>50</td>
<td>15</td>
<td>Air</td>
<td>7</td>
</tr>
<tr>
<td>40</td>
<td>12</td>
<td>Air</td>
<td>43</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>Air</td>
<td>26</td>
</tr>
<tr>
<td>20</td>
<td>6</td>
<td>Air</td>
<td>19</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>Air</td>
<td>28</td>
</tr>
<tr>
<td>10-0</td>
<td>3-0</td>
<td>Air</td>
<td>29</td>
</tr>
</tbody>
</table>

---

1. Use—treatment of decompression sickness where relief is obtained at or less than a depth of 266 feet.

2. Descent rate—25 ft/min (7.6 m/min).

3. Ascent rate—less than 25 ft/min (7.6 m/min) between stops.

4. Time at treatment depth does not include the compression time. Compression is carried out to a depth 34 feet deeper than the depth of relief. If relief is obtained at a depth between 251 and 266 feet, use the decompression procedure listed.

---

*U.S. Navy Diving Manual (1943).*

---

**FIGURE 5**

**Descent Rate 25 ft/min (7.6 m/min)**

**Ascent Rate Less Than 25 ft/min (7.6 m/min)**

**Total elapsed time 7 hours 29 minutes**
FIGURE 6

U.S. NAVY 1944 AIR RECOMPRESSION TREATMENT TABLE*

1. Use—treatment of mild decompression sickness when oxygen is not available or the patient cannot tolerate the elevated oxygen partial pressure.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (min)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours)</th>
<th>Total elapsed time (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>165</td>
<td>30</td>
<td>Air</td>
<td></td>
<td>37</td>
</tr>
<tr>
<td>140</td>
<td>24</td>
<td>Air</td>
<td></td>
<td>49</td>
</tr>
<tr>
<td>120</td>
<td>18</td>
<td>Air</td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>100</td>
<td>15</td>
<td>Air</td>
<td></td>
<td>13</td>
</tr>
<tr>
<td>80</td>
<td>15</td>
<td>Air</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>60</td>
<td>10</td>
<td>Air</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>40</td>
<td>6</td>
<td>Air</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>30</td>
<td>3</td>
<td>Air</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>20</td>
<td>1</td>
<td>Air</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>10</td>
<td>0.5</td>
<td>Air</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>10-0</td>
<td>0</td>
<td>Air</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

2. Descent rate--25 ft/min.

3. Ascent rate--not to exceed 25 ft/min between stops.

4. Time at 165 feet does not include the compression time. Time between stops is included in the time at the next stop.

*Burned News Letter (1944).
U.S. NAVY 1944 RECOMPRESSION TREATMENT TABLE WITH OXYGEN

1. Use—treatment of mild decompression sickness when oxygen is available.

<table>
<thead>
<tr>
<th>Depth (ft) (meters)</th>
<th>Time (min)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours) (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>165</td>
<td>30</td>
<td>Air</td>
<td>37</td>
</tr>
<tr>
<td>140</td>
<td>12</td>
<td>Air</td>
<td>49</td>
</tr>
<tr>
<td>120</td>
<td>12</td>
<td>Air</td>
<td>1</td>
</tr>
<tr>
<td>100</td>
<td>12</td>
<td>Air</td>
<td>13</td>
</tr>
<tr>
<td>80</td>
<td>12</td>
<td>Air</td>
<td>1</td>
</tr>
<tr>
<td>60</td>
<td>30</td>
<td>Oxygen</td>
<td>1</td>
</tr>
<tr>
<td>50</td>
<td>30</td>
<td>Oxygen</td>
<td>55</td>
</tr>
<tr>
<td>40</td>
<td>30</td>
<td>Oxygen</td>
<td>2</td>
</tr>
<tr>
<td>40-0</td>
<td>5</td>
<td>Oxygen</td>
<td>30</td>
</tr>
</tbody>
</table>

2. Descent rate—25 ft/min.

3. Ascent rate—not to exceed 25 ft/min between stops.

4. Time at 165 feet does not include the compression time. Time between stops is included in the time at the next stop.

*Read News Letter (1944).

---

**Figure 7**

- **Descent Rate 25 FT/MIN (7.6 m/MIN)**
- **Ascent Rate 25 FT/MIN (7.6 m/MIN)**
- **Total Elapsed Time 3 Hours**

- **Depth in Feet**
- **Time in Minutes**
- **Air**
- **Oxygen**
FIGURE 8

U.S. NAVY 1944 SHORT AIR RECOMPRESSION TREATMENT

TABLE*

1. Use treatment of mild decompression sickness when oxygen is not available or when it cannot be tolerated by the patient.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (min)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours) (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>30</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>80</td>
<td>24</td>
<td>12</td>
<td>Air</td>
</tr>
<tr>
<td>60</td>
<td>18</td>
<td>25</td>
<td>Air</td>
</tr>
<tr>
<td>50</td>
<td>15</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>40</td>
<td>12</td>
<td>35</td>
<td>Air</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>42</td>
<td>Air</td>
</tr>
<tr>
<td>20</td>
<td>6</td>
<td>52</td>
<td>Air</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>68</td>
<td>Air</td>
</tr>
<tr>
<td>10-0</td>
<td>3-0</td>
<td>10</td>
<td>Air</td>
</tr>
</tbody>
</table>

2. Descent rate--25 ft/min.
3. Ascent rate--1 minute between stops.
4. Time at 100 feet includes the compression time. Ascent time between stops is included in the time at the next stop.

*Duffner, Van Der Aue, and Behnke (1948).
U.S. NAVY 1944 SHORT OXYGEN RECOMPRESSION TREATMENT TABLE

1. Use—treatment of mild decompression sickness.
2. Descent rate—25 ft/min.
3. Ascent rate—1 minute between stops.
4. Time at 100 feet includes the compression time. Ascent time between stops is included in the time at the next stop.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (min)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours) (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>30</td>
<td>30 Air</td>
<td>30</td>
</tr>
<tr>
<td>80</td>
<td>24</td>
<td>12 Air</td>
<td>42</td>
</tr>
<tr>
<td>60</td>
<td>18</td>
<td>30 Oxygen</td>
<td>1 12</td>
</tr>
<tr>
<td>50</td>
<td>15</td>
<td>30 Oxygen</td>
<td>1 42</td>
</tr>
<tr>
<td>40</td>
<td>12</td>
<td>30 Oxygen</td>
<td>2 12</td>
</tr>
<tr>
<td>30-0</td>
<td>9-0</td>
<td>5 Oxygen</td>
<td>2 17</td>
</tr>
</tbody>
</table>

*Quifner, Van Der Aue, and Behnke (1948).*
1. Use—treatment of moderate to severe decompression sickness when oxygen is not available or cannot be tolerated by the patient.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (min)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours) (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>165</td>
<td>30</td>
<td>Air</td>
<td>30</td>
</tr>
<tr>
<td>140</td>
<td>12</td>
<td>Air</td>
<td>42</td>
</tr>
<tr>
<td>120</td>
<td>12</td>
<td>Air</td>
<td>54</td>
</tr>
<tr>
<td>100</td>
<td>12</td>
<td>Air</td>
<td>6</td>
</tr>
<tr>
<td>80</td>
<td>12</td>
<td>Air</td>
<td>18</td>
</tr>
<tr>
<td>60</td>
<td>26</td>
<td>Air</td>
<td>14</td>
</tr>
<tr>
<td>50</td>
<td>30</td>
<td>Air</td>
<td>14</td>
</tr>
<tr>
<td>40</td>
<td>35</td>
<td>Air</td>
<td>49</td>
</tr>
<tr>
<td>30</td>
<td>42</td>
<td>Air</td>
<td>31</td>
</tr>
<tr>
<td>20</td>
<td>52</td>
<td>Air</td>
<td>23</td>
</tr>
<tr>
<td>10</td>
<td>68</td>
<td>Air</td>
<td>26</td>
</tr>
<tr>
<td>10-0</td>
<td>10</td>
<td>Air</td>
<td>35</td>
</tr>
</tbody>
</table>

2. Descent rate—25 ft/min.

3. Ascent rate—1 minute between stops.

4. Time at 165 feet includes compression time. Ascent time between stops is included in the time at the next stop.

*Duffner, Van Der Aue, and Behnke (1948).*
U.S. NAVY 1944 LONG OXYGEN RECOMPRESSION TREATMENT TABLE

1. Use—treatment of moderate to severe decompression sickness.

2. Descent rate—25 ft/min.

3. Ascent rate—1 minute between stops.

4. Time at 165 feet includes the compression time. Ascent time between stops is included in the time at the next stop.

<table>
<thead>
<tr>
<th>Depth (ft) (meters)</th>
<th>Time (min)</th>
<th>Breathing medium</th>
<th>Total elapsed time (hours) (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>165</td>
<td>50</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>140</td>
<td>43</td>
<td>12</td>
<td>Air</td>
</tr>
<tr>
<td>120</td>
<td>37</td>
<td>12</td>
<td>Air</td>
</tr>
<tr>
<td>100</td>
<td>30</td>
<td>12</td>
<td>Air</td>
</tr>
<tr>
<td>80</td>
<td>24</td>
<td>12</td>
<td>Air</td>
</tr>
<tr>
<td>60</td>
<td>18</td>
<td>30</td>
<td>Oxygen</td>
</tr>
<tr>
<td>50</td>
<td>15</td>
<td>30</td>
<td>Oxygen</td>
</tr>
<tr>
<td>40</td>
<td>12</td>
<td>30</td>
<td>Oxygen</td>
</tr>
<tr>
<td>30-0</td>
<td>9-0</td>
<td>5</td>
<td>Oxygen</td>
</tr>
</tbody>
</table>

*Duffner, Van Der Aue, and Behnke (1948).*

![Diagram](image-url)
**U.S. NAVY RECOMPRESSION TREATMENT TABLE 1**

1. Use—treatment of pain-only decompression sickness when oxygen is available and pain is relieved at a depth less than 66 feet.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (min)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours) (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>30</td>
<td>Air</td>
<td>30</td>
</tr>
<tr>
<td>80</td>
<td>24</td>
<td>Air</td>
<td>43</td>
</tr>
<tr>
<td>60</td>
<td>18</td>
<td>Oxygen</td>
<td>1 14</td>
</tr>
<tr>
<td>50</td>
<td>15</td>
<td>Oxygen</td>
<td>1 45</td>
</tr>
<tr>
<td>40</td>
<td>12</td>
<td>Oxygen</td>
<td>2 16</td>
</tr>
<tr>
<td>30-0</td>
<td>9-0</td>
<td>Oxygen</td>
<td>2 21</td>
</tr>
</tbody>
</table>

2. Descent rate—25 ft/min.
3. Ascent rate—1 minute between stops.
4. Time at 100 feet includes time from the surface.

---

*U.S. Navy Diving Manual (1958).*
U.S. NAVY RECOMPRESSION TREATMENT TABLE 1A* (AIR TREATMENT)

1. Use—treatment of pain-only decompression sickness when oxygen cannot be used and pain is relieved at a depth less than 66 feet.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (min)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours) (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>30</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>80</td>
<td>24</td>
<td>12</td>
<td>Air</td>
</tr>
<tr>
<td>60</td>
<td>18</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>50</td>
<td>15</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>40</td>
<td>12</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>60</td>
<td>Air</td>
</tr>
<tr>
<td>20</td>
<td>6</td>
<td>60</td>
<td>Air</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>120</td>
<td>Air</td>
</tr>
<tr>
<td>10-0</td>
<td>3-0</td>
<td>1</td>
<td>Air</td>
</tr>
</tbody>
</table>


Figure 13

- Descent rate—25 ft/min
- Ascent rate—1 minute between stops
- Total elapsed time 6 hours 20 minutes

Diagram:
- Depth in feet
- Time in minutes
- Descent rate 25 ft/min
- Ascent rate 1 minute between stops
- Total elapsed time 6 hours 20 minutes
- Air
U.S. NAVY RECOMPRESSION TREATMENT TABLE 2*

1. Use—treatment of pain only decompression sickness when oxygen is available and pain is relieved at a depth greater than 66 feet.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (min)</th>
<th>Breathing Media</th>
<th>Total elapsed time (hours) (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>165</td>
<td>50</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>140</td>
<td>43</td>
<td>12</td>
<td>Air</td>
</tr>
<tr>
<td>120</td>
<td>37</td>
<td>12</td>
<td>Air</td>
</tr>
<tr>
<td>100</td>
<td>30</td>
<td>12</td>
<td>Air</td>
</tr>
<tr>
<td>80</td>
<td>24</td>
<td>12</td>
<td>Air</td>
</tr>
<tr>
<td>60</td>
<td>18</td>
<td>30</td>
<td>Oxygen</td>
</tr>
<tr>
<td>50</td>
<td>15</td>
<td>30</td>
<td>Oxygen</td>
</tr>
<tr>
<td>40</td>
<td>12</td>
<td>30</td>
<td>Oxygen</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>60</td>
<td>Oxygen</td>
</tr>
<tr>
<td>30-0</td>
<td>9-0</td>
<td>5</td>
<td>Oxygen</td>
</tr>
</tbody>
</table>


DESCENT RATE 25 FT/MIN
ASCENT RATE 1 MIN BETWEEN STOPS
TOTAL ELAPSED TIME 4 HOURS 1 MINUTE

AIR
OXYGEN
1. Usual treatment of pain-only decompression sickness when oxygen cannot be used and pain is relieved at a depth greater than 66 feet.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (hours)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>165</td>
<td>30</td>
<td>Air</td>
<td>30</td>
</tr>
<tr>
<td>140</td>
<td>12</td>
<td>Air</td>
<td>43</td>
</tr>
<tr>
<td>120</td>
<td>12</td>
<td>Air</td>
<td>56</td>
</tr>
<tr>
<td>100</td>
<td>12</td>
<td>Air</td>
<td>1</td>
</tr>
<tr>
<td>80</td>
<td>12</td>
<td>Air</td>
<td>2</td>
</tr>
<tr>
<td>60</td>
<td>30</td>
<td>Air</td>
<td>2</td>
</tr>
<tr>
<td>50</td>
<td>30</td>
<td>Air</td>
<td>2</td>
</tr>
<tr>
<td>40</td>
<td>30</td>
<td>Air</td>
<td>2</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>Air</td>
<td>4</td>
</tr>
<tr>
<td>20</td>
<td>6</td>
<td>Air</td>
<td>6</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>Air</td>
<td>10</td>
</tr>
<tr>
<td>10-0</td>
<td>3-0</td>
<td>Air</td>
<td>10</td>
</tr>
</tbody>
</table>

2. Descent rate--25 ft/min.

3. Ascent rate--1 min 1 between stops.

4. Time at 165 feet--includes time from the surface.

---

*U.S. Navy Diving Manual (1958).*
U.S. NAVY RECOMPRESSION TREATMENT TABLE 3* (AIR TREATMENT)

1. Use--treatment of serious symptoms when oxygen cannot be used and symptoms are relieved within 30 minutes at 165 feet.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (hours)</th>
<th>Breathing media</th>
<th>Total elapsed time (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>165</td>
<td>50</td>
<td>30 Air</td>
<td>30</td>
</tr>
<tr>
<td>140</td>
<td>43</td>
<td>12 Air</td>
<td>43</td>
</tr>
<tr>
<td>120</td>
<td>37</td>
<td>12 Air</td>
<td>56</td>
</tr>
<tr>
<td>100</td>
<td>30</td>
<td>12 Air</td>
<td>9</td>
</tr>
<tr>
<td>80</td>
<td>24</td>
<td>12 Air</td>
<td>22</td>
</tr>
<tr>
<td>60</td>
<td>18</td>
<td>30 Oxygen (or air)</td>
<td>53</td>
</tr>
<tr>
<td>50</td>
<td>15</td>
<td>30 Oxygen (or air)</td>
<td>24</td>
</tr>
<tr>
<td>.40</td>
<td>12</td>
<td>30 Oxygen (or air)</td>
<td>55</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>12 Air</td>
<td>56</td>
</tr>
<tr>
<td>20</td>
<td>6</td>
<td>2 Air</td>
<td>57</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>2 Air</td>
<td>58</td>
</tr>
<tr>
<td>10-0</td>
<td>3-0</td>
<td>1 Air</td>
<td>59</td>
</tr>
</tbody>
</table>

2. Descent rate--25 ft/min.
3. Ascent rate--1 minute between stops.
4. Time at 165 feet--includes time from surface.


---

**Figure 16**

**Figure 16** shows the recompression treatment table for air treatment. The graph illustrates the descent rate as fast as possible, the ascent rate of 1 minute between stops, and the total elapsed time of 18 hours and 59 minutes. The table lists the depth in feet, time in hours and minutes, and the breathing media used for recompression. The graph highlights the depth in feet and time in minutes, with air and oxygen indicated by different patterns.
U.S. NAVY RECOMPRESSION TREATMENT TABLE 4
(AIR TREATMENT)

1. Use—treatment of serious symptoms or
gas embolism when oxygen cannot be used
and when symptoms are not relieved within
30 minutes at 165 feet.

2. Descent rate—25 ft/min.

3. Ascent rate—1 minute between stops.

4. Time at 165 feet—includes time from
the surface.


<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (hours)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>165</td>
<td>30-90</td>
<td>Air</td>
<td>1</td>
</tr>
<tr>
<td>140</td>
<td>30</td>
<td>Air</td>
<td>2</td>
</tr>
<tr>
<td>120</td>
<td>30</td>
<td>Air</td>
<td>2</td>
</tr>
<tr>
<td>100</td>
<td>30</td>
<td>Air</td>
<td>3</td>
</tr>
<tr>
<td>80</td>
<td>30</td>
<td>Air</td>
<td>3</td>
</tr>
<tr>
<td>60</td>
<td>6</td>
<td>Air</td>
<td>9</td>
</tr>
<tr>
<td>50</td>
<td>6</td>
<td>Air</td>
<td>15</td>
</tr>
<tr>
<td>40</td>
<td>6</td>
<td>Air</td>
<td>21</td>
</tr>
<tr>
<td>30</td>
<td>11</td>
<td>Air</td>
<td>32</td>
</tr>
<tr>
<td>30</td>
<td>1</td>
<td>Oxygen (or air)</td>
<td>33</td>
</tr>
<tr>
<td>20</td>
<td>1</td>
<td>Air</td>
<td>34</td>
</tr>
<tr>
<td>20</td>
<td>1</td>
<td>Oxygen (or air)</td>
<td>35</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>Air</td>
<td>36</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>Oxygen (or air)</td>
<td>37</td>
</tr>
<tr>
<td>10-0</td>
<td>1</td>
<td>Oxygen</td>
<td>37</td>
</tr>
</tbody>
</table>

DESCENT RATE AS FAST AS POSSIBLE

ASCENT RATE 1 MINUTE BETWEEN STOPS

TOTAL ELAPSED TIME 37 HOURS 41 MINUTES (INCLUDING 1 1/2 HR AT 165 FT)

TIME IN HOURS EXCEPT WHERE NOTED
**U.S. NAVY RECOMPRESSION TREATMENT TABLE 5 (OXYGEN TREATMENT)**

1. Use—treatment of pain-only decompression sickness when oxygen can be used and symptoms are relieved within 10 minutes at 60 feet. Patient breathes oxygen from the surface.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (min)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours) (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>18</td>
<td>20</td>
<td>Oxygen</td>
</tr>
<tr>
<td>60</td>
<td>18</td>
<td>5</td>
<td>Air</td>
</tr>
<tr>
<td>60</td>
<td>18</td>
<td>20</td>
<td>Oxygen</td>
</tr>
<tr>
<td>60-30</td>
<td>18-9</td>
<td>30</td>
<td>Oxygen</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>5</td>
<td>Air</td>
</tr>
<tr>
<td>30-0</td>
<td>9-0</td>
<td>30</td>
<td>Oxygen</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>5</td>
<td>Air</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>5</td>
<td>Oxygen</td>
</tr>
</tbody>
</table>

2. Descent rate—25 ft/min.

3. Ascent rate—1 ft/min. Do not compensate for slower ascent rates. Compensate for faster rates by halting the ascent.

4. Time at 60 feet—begins on arrival at 60 feet.

5. If oxygen breathing must be interrupted, allow 15 minutes after the reaction has entirely subsided and resume schedule at point of interruption.

6. If oxygen breathing must be interrupted at 60 feet, switch to Table 6 upon arrival at the 30-foot stop.

7. Tender breathes air throughout. If treatment is a repetitive dive for the tender or the table is lengthened, the tender should breathe oxygen during the last 30 minutes of ascent to the surface.

---

*U.S. Navy Diving Manual (1975).*
FIGURE 19

U.S. NAVY RECOMPRESSION TREATMENT TABLE 5A (OXYGEN TREATMENT)*

1. Use--treatment of gas embolism when oxygen can be used and symptoms are relieved within 15 minutes at 165 feet.

<table>
<thead>
<tr>
<th>Depth (ft) (meters)</th>
<th>Time (min)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours)(min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>165-60 50-18</td>
<td>15</td>
<td>Air</td>
<td>15</td>
</tr>
<tr>
<td>60-18</td>
<td>4</td>
<td>Air</td>
<td>19</td>
</tr>
<tr>
<td>60-18</td>
<td>20</td>
<td>Oxygen</td>
<td>29</td>
</tr>
<tr>
<td>60-30 18-9</td>
<td>20</td>
<td>Oxygen</td>
<td>34</td>
</tr>
<tr>
<td>30</td>
<td>5</td>
<td>Air</td>
<td>4</td>
</tr>
<tr>
<td>30</td>
<td>20</td>
<td>Oxygen</td>
<td>39</td>
</tr>
<tr>
<td>30</td>
<td>5</td>
<td>Air</td>
<td>4</td>
</tr>
<tr>
<td>30</td>
<td>30</td>
<td>Oxygen</td>
<td>59</td>
</tr>
</tbody>
</table>

2. Descent rate--as fast as possible.
3. Ascent rate--1 ft/min. Do not compensate for slower ascent rates. Compensate for faster ascent rates by halting the ascent.
4. Time at 165 feet--includes time from the surface.
5. If oxygen breathing must be interrupted, allow 15 minutes after the reaction has entirely subsided and resume schedule at point of interruption.
6. Tender breathes air throughout. If treatment is a repetitive dive for the tender or the table is lengthened, the tender should breathe oxygen during the last 30 minutes of ascent to the surface.


---

**Diagram**

- **Descent Rate** as fast as possible
- **Ascent Rate** 26 ft/min
- **Total Elapsed Time** 2 hours 34 minutes
- **Depth in Feet**
  - 0
  - 20
  - 40
  - 60
  - 80
  - 100
  - 120
  - 140
  - 165
- **Time in Minutes**
  - 0
  - 5
  - 10
  - 15
  - 20
  - 25
  - 30
  - 35
  - 40
  - 45
  - 50

---

**Legend**

- **Air**
- **Oxygen**
U.S. NAVY RECOMPRESSION TREATMENT TABLE 6 (OXYGEN TREATMENT)*

1. Use--treatment of decompression sickness when oxygen can be used and symptoms are not relieved within 10 minutes at 80 feet. Patient breathes oxygen from the surface.

2. Descent rate--25 ft/min.

3. Ascent rate--1 ft/min. Do not compensate for slower ascent rates. Compensate for faster rates by halting the ascent.

4. Time at 60 feet--begins on arrival at 60 feet.

5. If oxygen breathing must be interrupted, allow 15 minutes after the reaction has entirely subsided and resume schedule at point of interruption.

6. Tender breathes air throughout. If treatment is a repetitive dive for the tender or the table is lengthened, the tender should breathe oxygen during the last 30 minutes of ascent to the surface.

*Does not include descent time.


<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (min)</th>
<th>Breathing media</th>
<th>Total elapsed time (hrs)(min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>18</td>
<td>20</td>
<td>Oxygen 20</td>
</tr>
<tr>
<td>60</td>
<td>18</td>
<td>5</td>
<td>Air 25</td>
</tr>
<tr>
<td>60</td>
<td>18</td>
<td>20</td>
<td>Oxygen 45</td>
</tr>
<tr>
<td>60</td>
<td>18</td>
<td>5</td>
<td>Air 50</td>
</tr>
<tr>
<td>60</td>
<td>18</td>
<td>5</td>
<td>Oxygen 10</td>
</tr>
<tr>
<td>60</td>
<td>18</td>
<td>5</td>
<td>Oxygen 1</td>
</tr>
<tr>
<td>60</td>
<td>18</td>
<td>5</td>
<td>Air 10</td>
</tr>
<tr>
<td>60</td>
<td>18</td>
<td>5</td>
<td>Oxygen 45</td>
</tr>
<tr>
<td>60</td>
<td>18</td>
<td>5</td>
<td>Oxygen 45</td>
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<tr>
<td>60</td>
<td>18</td>
<td>5</td>
<td>Oxygen 45</td>
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<td>60</td>
<td>18</td>
<td>5</td>
<td>Oxygen 45</td>
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<td>60</td>
<td>18</td>
<td>5</td>
<td>Oxygen 45</td>
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<td>60</td>
<td>18</td>
<td>5</td>
<td>Oxygen 45</td>
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<td>60</td>
<td>18</td>
<td>5</td>
<td>Oxygen 45</td>
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<td>60</td>
<td>18</td>
<td>5</td>
<td>Oxygen 45</td>
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<td>60</td>
<td>18</td>
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<td>Oxygen 45</td>
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<td>60</td>
<td>18</td>
<td>5</td>
<td>Oxygen 45</td>
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<td>60</td>
<td>18</td>
<td>5</td>
<td>Oxygen 45</td>
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<td>60</td>
<td>18</td>
<td>5</td>
<td>Oxygen 45</td>
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<td>60</td>
<td>18</td>
<td>5</td>
<td>Oxygen 45</td>
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<td>60</td>
<td>18</td>
<td>5</td>
<td>Oxygen 45</td>
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<tr>
<td>60</td>
<td>18</td>
<td>5</td>
<td>Oxygen 45</td>
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<tr>
<td>60</td>
<td>18</td>
<td>5</td>
<td>Oxygen 45</td>
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<tr>
<td>60</td>
<td>18</td>
<td>5</td>
<td>Oxygen 45</td>
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<td>60</td>
<td>18</td>
<td>5</td>
<td>Oxygen 45</td>
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<td>60</td>
<td>18</td>
<td>5</td>
<td>Oxygen 45</td>
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<td>60</td>
<td>18</td>
<td>5</td>
<td>Oxygen 45</td>
</tr>
<tr>
<td>60</td>
<td>18</td>
<td>5</td>
<td>Oxygen 45</td>
</tr>
<tr>
<td>60</td>
<td>18</td>
<td>5</td>
<td>Oxygen 45</td>
</tr>
</tbody>
</table>

---

**Diagram:**

- **OXYGEN**
- **AIR**

**Descent Rate 25 ft/min**

**Ascent Rate 1 ft/min**

**Total Elapsed Time 4 Hours 45 Minutes**

(Not including descent time)
FIGURE 21

U.S. NAVY RECOMPRESSON TREATMENT TABLE 6A (OXYGEN TREATMENT)*

1. Use—treatment of gas embolism when oxygen can be used and symptoms moderate to a major extent within 30 minutes at 165 feet.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (min)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours) (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>165</td>
<td>50</td>
<td>30</td>
<td>Air 30</td>
</tr>
<tr>
<td>165-60</td>
<td>50-18</td>
<td>4</td>
<td>Air 34</td>
</tr>
<tr>
<td>60</td>
<td>18</td>
<td>20</td>
<td>Oxygen 54</td>
</tr>
<tr>
<td>60</td>
<td>18</td>
<td>5</td>
<td>Air 59</td>
</tr>
<tr>
<td>60</td>
<td>18</td>
<td>20</td>
<td>Oxygen 1 19</td>
</tr>
<tr>
<td>60</td>
<td>18</td>
<td>5</td>
<td>Air 1 24</td>
</tr>
<tr>
<td>60</td>
<td>18</td>
<td>20</td>
<td>Oxygen 1 44</td>
</tr>
<tr>
<td>60</td>
<td>18</td>
<td>5</td>
<td>Air 1 49</td>
</tr>
<tr>
<td>60-30</td>
<td>18-9</td>
<td>30</td>
<td>Oxygen 2 19</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>15</td>
<td>Air 2 34</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>60</td>
<td>Oxygen 3 34</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>15</td>
<td>Air 3 49</td>
</tr>
<tr>
<td>30-0</td>
<td>9-0</td>
<td>30</td>
<td>Oxygen 4 49</td>
</tr>
</tbody>
</table>

2. Descent rate—as fast as possible.

3. Ascent rate—1 ft/min. Do not compensate for slower ascent rates. Compensate for faster ascent rates by halting the ascent.

4. Time at 165 feet—includes time from the surface.

5. If oxygen breathing must be interrupted, allow 15 minutes after the reaction has entirely subsided and resume schedule at point of interruption.

6. Tender breathe air throughout. If treatment is a repetitive dive for the tender or the table is lengthened, the tender should breathe oxygen during the last 30 minutes of ascent to the surface.

FIGURE 22

U.S. NAVY TREATMENT PROCEDURE FOR DECOMPRESSION SICKNESS OCCURRING ON SATURATION DIVES

1. Use—For treatment of decompression sickness manifested as musculoskeletal pain only.

2. Procedure—Recompress in increments of 10 feet at 5 ft/min until distinct improvement is indicated by the diver. Recompression more than 30 feet is usually not necessary and causes increasing pain in some cases.

3. During recompression and at treatment depth, a treatment mixture may be given by mask to provide an oxygen partial pressure of 1.5 to 2.5 atm. Pure oxygen may be used at treatment depths of 60 feet or less. Interrupt the mask treatment every 20 minutes with 5 minutes of breathing the chamber atmosphere.

4. Treat serious decompression sickness that results from an excursion ascent by immediate recompression at 30 ft/min to at least the depth from which the excursion ascent originated. If there is not complete relief at that depth, recompression should continue deeper until relief is accomplished.

5. Remain at the treatment depth a minimum of 12 hours in serious decompression sickness and a minimum of 2 hours in pain-only decompression sickness. Resume the standard saturation decompression schedule from the treatment depth.

FIGURE 23

TEKTITE I and II TREATMENT AND EMERGENCY DECOMPRESSION SCHEDULE FOR A 42- TO 60-FOOT SATURATION DIVE*

1. Use—for treatment of any of the TEKTITE aquanauts who might develop decompression sickness due to emergency surfacing. Saturation gas mixture was 98% O₂-2% N₂.

2. Descent rate—as fast as the patient and tenders can tolerate.

3. Ascent rate—1 min/ft on the same gas as breathed at the previous stop.

4. Time at 60 feet is independent of the compression time.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (hours)(min)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours)(min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>18</td>
<td>20</td>
<td>Oxygen</td>
</tr>
<tr>
<td>55</td>
<td>17</td>
<td>20</td>
<td>Air</td>
</tr>
<tr>
<td>60</td>
<td>16</td>
<td>20</td>
<td>Oxygen</td>
</tr>
<tr>
<td>45</td>
<td>14</td>
<td>20</td>
<td>Air</td>
</tr>
<tr>
<td>40</td>
<td>14</td>
<td>20</td>
<td>Oxygen</td>
</tr>
<tr>
<td>25</td>
<td>8</td>
<td>1</td>
<td>Air</td>
</tr>
<tr>
<td>20</td>
<td>6</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>20</td>
<td>6</td>
<td>30</td>
<td>Oxygen</td>
</tr>
<tr>
<td>15</td>
<td>6</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>2</td>
<td>Oxygen</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>1</td>
<td>Oxygen</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>1</td>
<td>Oxygen</td>
</tr>
<tr>
<td>0-0</td>
<td>2-0</td>
<td>5</td>
<td>Air</td>
</tr>
</tbody>
</table>

*Beckman and Smith (1972).

Total 100% Oxygen Inhalation = 4 hours 50 minutes
FIGURE 24

TEKTITE II TREATMENT AND EMERGENCY DECOMPRESSION SCHEDULE FOR THE 100-FOOT SATURATION DIVE

1. Use—for treatment of individuals who might develop decompression sickness due to emergency surfacing.

2. Descent rate—as fast as the patient and tenders can tolerate.

*Beckman and Smith (1972).

Procedure

1. Recompress diver to 165 ft in the Deck Decompression Chamber immediately in an air-breathing atmosphere.

2. If full recovery or stabilization occurs within 15 minutes, proceed to Step 6 herein.

3. If diver's condition does not stabilize or if it continues on a downhill course, further recompress him to 200 ft and change breathing mixture to 90% He-10% O₂. If stabilization or recovery results from this procedure, proceed to Step 5.

4. If procedures of Step 3 are unavailing in producing stabilization or recovery of the diver, further recompress him to 250 ft and maintain 90% He-10% O₂ breathing mixture.

5. Keep diver 24 hours at the pressure treatment that halted or reversed symptoms. Adjust O₂ percentage to normoxic value within 4 hours.

6. Decompress diver to 70 ft at the rate of 24 min/ft. Maintain the normoxic breathing mixture.

7. Follow regular 100-ft decompression schedule from 70 ft to surface pressure. Switch to air breathing if diver was breathing He-0₂ previously. Otherwise, he must remain on the normoxic He-0₂ mixture interspersed with periods of breathing 100% O₂ as prescribed in Figure 22.
1. Use—Treatment of any decompression sickness symptoms. For pain-only symptoms, compress to the depth of relief. For cases involving paralysis and other CNS involvement, compress to the highest pressure available. Start the decompression schedule according to the following.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (hours)(min)</th>
<th>Rate (ft/ml)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours)(min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>225-202</td>
<td>68-61</td>
<td>2.5</td>
<td>9.0</td>
<td>Air</td>
</tr>
<tr>
<td>202-169</td>
<td>61-51</td>
<td>7.5</td>
<td>4.5</td>
<td>Air</td>
</tr>
<tr>
<td>169-135</td>
<td>51-41</td>
<td>15.0</td>
<td>2.3</td>
<td>Air</td>
</tr>
<tr>
<td>135-101</td>
<td>41-31</td>
<td>22.5</td>
<td>1.5</td>
<td>Air</td>
</tr>
<tr>
<td>101-67</td>
<td>31-20</td>
<td>45.0</td>
<td>.75</td>
<td>Air</td>
</tr>
<tr>
<td>67-34</td>
<td>20-10</td>
<td>1</td>
<td>15.0</td>
<td>Air</td>
</tr>
<tr>
<td>34-0</td>
<td></td>
<td></td>
<td>.45</td>
<td>Air</td>
</tr>
</tbody>
</table>

2. Descent rate—8 meters (m) per minute (25 ft/min).

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (hours)(min)</th>
<th>Rate (ft/ml)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours)(min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>101-67</td>
<td>31-20</td>
<td>1</td>
<td>.56</td>
<td>Air</td>
</tr>
<tr>
<td>67-34</td>
<td>20-10</td>
<td>1</td>
<td>.37</td>
<td>Air</td>
</tr>
<tr>
<td>34-0</td>
<td>10-0</td>
<td>2</td>
<td>.22</td>
<td>Air</td>
</tr>
</tbody>
</table>

3. Ascent rate—see table provided.

4. Time at maximum treatment pressure does not include compression time.

---

*Source unknown.*
FIGURE 26
DECOMPRESSION SICKNESS *

JOINT PAIN ONLY  JOIN'T PAIN PLUS A MORE SERIOUS SYMPTOM  SERIOUS SYMPTOM ONLY

IF O₂ AVAILABLE
O₂ 18m

IF O₂ NOT AVAILABLE
AIR 20m

If complete in 10 minutes
If complete relief in 10 minutes

61 If relief not complete in 10 minutes
AIR 30m

If specialist medical officer available

62 AIR 18m

63 AIR 50m

If complete relief in 10 minutes

51 If relief not complete in 10 minutes, inform specialist

61, 62

IF O₂ and specialist medical officer are available

52 If O₂ is available

53 If O₂ is not available

54 If specialist medical officer available

55

71


□ British Recompression Treatment Table To Be Used.
ROYAL NAVY TABLE 51--AIR RECOMPRESSION THERAPY

1. Use--treatment of pain-only decompression sickness when oxygen is not available and when pain is relieved within 10 minutes at or less than a depth of 20 meters (66 ft).

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (hours)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>66</td>
<td>20</td>
<td>10 Air</td>
<td>12</td>
</tr>
<tr>
<td>98</td>
<td>30</td>
<td>30 Air</td>
<td>43</td>
</tr>
<tr>
<td>79</td>
<td>24</td>
<td>12 Air</td>
<td>1</td>
</tr>
<tr>
<td>69</td>
<td>18</td>
<td>30 Air</td>
<td>35</td>
</tr>
<tr>
<td>49</td>
<td>15</td>
<td>30 Air</td>
<td>10</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>30 Air</td>
<td>45</td>
</tr>
<tr>
<td>29</td>
<td>9</td>
<td>1 Air</td>
<td>50</td>
</tr>
<tr>
<td>20</td>
<td>6</td>
<td>1 Air</td>
<td>55</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>2 Air</td>
<td>7</td>
</tr>
<tr>
<td>10-0</td>
<td>3-0</td>
<td>5 Air</td>
<td>5</td>
</tr>
</tbody>
</table>

2. Descent rate--at a rate of approximately 10 m/min (33 ft/min).

3. Ascent rate--5 minutes between stops.

4. Time at 30 meters (98 ft) does not include the compression time or the time at 20 meters (66 ft).

---

ROYAL NAVY TABLE 52--AIR RECOMPRESSION THERAPY*

1. Use--treatment of pain-only decompression sickness when oxygen is not available and pain is not relieved with 10 minutes at or less than 20 meters (66 ft), but does have relief within 10 minutes at 50 meters (164 ft).

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (hours)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>66</td>
<td>20</td>
<td>10</td>
<td>Air</td>
</tr>
<tr>
<td>130</td>
<td>50</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>118</td>
<td>42</td>
<td>12</td>
<td>Air</td>
</tr>
<tr>
<td>118</td>
<td>36</td>
<td>12</td>
<td>Air</td>
</tr>
<tr>
<td>98</td>
<td>30</td>
<td>12</td>
<td>Air</td>
</tr>
<tr>
<td>79</td>
<td>24</td>
<td>12</td>
<td>Air</td>
</tr>
<tr>
<td>59</td>
<td>18</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>49</td>
<td>15</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>2</td>
<td>Air</td>
</tr>
<tr>
<td>20</td>
<td>6</td>
<td>2</td>
<td>Air</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>2</td>
<td>Air</td>
</tr>
</tbody>
</table>

2. Descent rate--at a rate of approximately 10 m/min (33 ft/min).

3. Ascent rate--5 minutes between stops.

4. Time at 50 meters (164 ft) does not include the compression time or the time at 20 m (66 ft).

---


---

**Figure 28**

- Depth in feet (0-164 ft)
- Time in minutes (0-120)
- Breathing media: Air
- Total elapsed time in hours (0-9)

**Legend**
- **Descent Rate 10 m/min (33 ft/min)**
- **Ascent Rate 5 minutes between stops**
- **Total Elapsed Time 9 Hours 58 Minutes**
ROYAL NAVY TABLE 53--AIR RECOMPRESSION THERAPY

1. Use--treatment of joint pain plus a more serious symptom of decompression sickness when oxygen is not available and symptoms are relieved within 30 minutes at or less than 50 meters (164 ft).

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (hours)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>164</td>
<td>50</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>138</td>
<td>42</td>
<td>12</td>
<td>Air</td>
</tr>
<tr>
<td>118</td>
<td>36</td>
<td>12</td>
<td>Air</td>
</tr>
<tr>
<td>98</td>
<td>30</td>
<td>12</td>
<td>Air</td>
</tr>
<tr>
<td>79</td>
<td>24</td>
<td>12</td>
<td>Air</td>
</tr>
<tr>
<td>59</td>
<td>18</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>49</td>
<td>15</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>12</td>
<td>Air</td>
</tr>
<tr>
<td>20</td>
<td>6</td>
<td>2</td>
<td>Air</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>2</td>
<td>Air</td>
</tr>
<tr>
<td>10-0</td>
<td>3-0</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

2. Descent rate--(a) in mild cases, at a rate of approximately 10 m/min; (b) in serious cases as fast as can be tolerated by the patient.

3. Ascent rate--5 minutes between stops.

4. Time at 50 meters (164 ft) does not include the compression time.

ROYAL NAVY TABLE 54--AIR RECOMPRESSION THERAPY

1. Use--treatment of joint pain plus a more serious symptom of decompression sickness when oxygen is available and symptoms are not relieved within 30 minutes at or less than 50 meters (164 ft).

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (hours)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours[min])</th>
</tr>
</thead>
<tbody>
<tr>
<td>164</td>
<td>50</td>
<td>2</td>
<td>Air</td>
</tr>
<tr>
<td>138</td>
<td>42</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>118</td>
<td>36</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>98</td>
<td>30</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>79</td>
<td>24</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>59</td>
<td>18</td>
<td>6</td>
<td>Air</td>
</tr>
<tr>
<td>49</td>
<td>15</td>
<td>6</td>
<td>Air</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>6</td>
<td>Air</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>11</td>
<td>Air</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>1</td>
<td>Oxygen</td>
</tr>
<tr>
<td>20</td>
<td>6</td>
<td>1</td>
<td>Air</td>
</tr>
<tr>
<td>20</td>
<td>6</td>
<td>1</td>
<td>Oxygen</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>1</td>
<td>Air</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>1</td>
<td>Oxygen</td>
</tr>
<tr>
<td>10-0</td>
<td>3-0</td>
<td>5</td>
<td>Oxygen</td>
</tr>
</tbody>
</table>

2. Descent rate--(a) in mild cases, compress at a rate of approximately 10 m/min; (b) in serious cases, compress as fast as can be tolerated by the patient.

3. Ascent rate--5 minutes between stops.

4. Time at 50 meters (164 ft) does not include the compression time.


FIGURE 30

- Descent rate 10 m/min (33 ft/min)
- Ascent rate 5 minutes between stops
- Total elapsed time 39 hours

Diagram showing depth in feet and time in minutes except where noted (h, hour).
ROYAL NAVY TABLE 55--AIR RECOMPRESSION THERAPY*

1. Use--treatment of joint pain plus a more serious symptom of decompression sickness when oxygen is not available and the symptoms are not relieved within 30 minutes at or less than 50 meters (164 ft).

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (hours)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>138</td>
<td>2</td>
<td>Air</td>
<td>2</td>
</tr>
<tr>
<td>118</td>
<td>30</td>
<td>Air</td>
<td>3</td>
</tr>
<tr>
<td>98</td>
<td>30</td>
<td>Air</td>
<td>3</td>
</tr>
<tr>
<td>70</td>
<td>30</td>
<td>Air</td>
<td>4</td>
</tr>
<tr>
<td>50</td>
<td>6</td>
<td>Air</td>
<td>10</td>
</tr>
<tr>
<td>40</td>
<td>6</td>
<td>Air</td>
<td>16</td>
</tr>
<tr>
<td>30</td>
<td>12</td>
<td>Air</td>
<td>22</td>
</tr>
<tr>
<td>20</td>
<td>4</td>
<td>Air</td>
<td>38</td>
</tr>
<tr>
<td>10</td>
<td>4</td>
<td>Air</td>
<td>42</td>
</tr>
</tbody>
</table>

2. Descent rate--(a) in mild cases, compress at a rate of approximately 10 m/min; (b) in serious cases, compress as fast as can be tolerated by the patient.

3. Ascent rate--5 minutes between stops.

4. Time at 50 meters does not include the compression time.

FIGURE 32

ROYAL NAVY TABLE 61—OXYGEN RECOMPRESSION THERAPY*

1. Use—treatment of pain-only decompression sickness when oxygen is available and pain is relieved within 10 minutes or at less than 18 meters (59 ft), or for serious symptoms when a specialized medical officer is present.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (min)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours)(min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>59</td>
<td>18</td>
<td>20</td>
<td>Oxygen</td>
</tr>
<tr>
<td>59</td>
<td>18</td>
<td>5</td>
<td>Air</td>
</tr>
<tr>
<td>59</td>
<td>18</td>
<td>20</td>
<td>Oxygen</td>
</tr>
<tr>
<td>59-30</td>
<td>18-9</td>
<td>30</td>
<td>Oxygen</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>5</td>
<td>Air</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>20</td>
<td>Oxygen</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>5</td>
<td>Air</td>
</tr>
<tr>
<td>30-0</td>
<td>9-0</td>
<td>30</td>
<td>Oxygen</td>
</tr>
</tbody>
</table>

2. Descent rate—compress to 18 meters in 1 or 2 minutes with the patient breathing oxygen.

3. Ascent rate—decompress between stops on oxygen at the rate of 0.30 m/min (0.98 ft/min).

4. Time at 18 meters does not include the decompression time.


---

![Diagram showing depth in feet and time in minutes, with the decompression and ascent rates labeled. The total elapsed time is 2 hours 17 minutes. The shaded areas represent air and oxygen.

Descent Rate: 9 m/min (30 ft/min)

Ascent Rate: 0.30 m/min (1 ft/min)

Total Elapsed Time: 2 hours 17 minutes

Air

Oxygen
ROYAL NAVY TABLE 62—OXYGEN RECOMPRESSION THERAPY*

1. Use—treatment of pain-only decompression sickness when oxygen is available and pain is not relieved within 10 minutes at 18 meters (59 ft) or for serious symptoms when a specialized medical officer is present.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (min)</th>
<th>Breathing Media</th>
<th>Total elapsed time (hours)(min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>59</td>
<td>18</td>
<td>20</td>
<td>Oxygen</td>
</tr>
<tr>
<td>59</td>
<td>18</td>
<td>5</td>
<td>Air</td>
</tr>
<tr>
<td>59</td>
<td>18</td>
<td>20</td>
<td>Oxygen</td>
</tr>
<tr>
<td>59</td>
<td>18</td>
<td>5</td>
<td>Air</td>
</tr>
<tr>
<td>59</td>
<td>18</td>
<td>20</td>
<td>Oxygen</td>
</tr>
<tr>
<td>59-30</td>
<td>18-9</td>
<td>30</td>
<td>Oxygen</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>15</td>
<td>Air</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>60</td>
<td>Oxygen</td>
</tr>
<tr>
<td>30-0</td>
<td>9-0</td>
<td>30</td>
<td>Oxygen</td>
</tr>
</tbody>
</table>

2. Descent rate—compress to 18 meters in 1 or 2 minutes with the patient breathing oxygen.

3. Ascent rate—decompress between stops on oxygen at the rate of 0.30 m/min (0.98 ft/min).

4. Time at 18 meters does not include the compression time.


---

**Figure 33**

Descent rate 9 m/min (30 ft/min)

Ascent rate 0.30 m/min (1 ft/min)

Total elapsed time 4 hours 47 minutes

Depth in feet

Time in minutes
ROYAL NAVY TABLE 71--MODIFIED AIR RECOMPRESSION TABLE

1. Use--treatment of any decompression symptom in lieu of the air recompression therapy if a specialist medical officer is present.

<table>
<thead>
<tr>
<th>Depth (ft) (meters)</th>
<th>Time (hours)(min)</th>
<th>Rate meters/hours</th>
<th>Breathing medium</th>
<th>Total elapsed time (hours)(min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>230 70</td>
<td>3</td>
<td>--</td>
<td>Air</td>
<td>37</td>
</tr>
<tr>
<td>230-207 70-63</td>
<td>7</td>
<td>60</td>
<td>Air</td>
<td>44</td>
</tr>
<tr>
<td>207-167 63-51</td>
<td>2</td>
<td>3</td>
<td>Air</td>
<td>44</td>
</tr>
<tr>
<td>167-128 51-39</td>
<td>4</td>
<td>2</td>
<td>Air</td>
<td>44</td>
</tr>
<tr>
<td>128-95 39-29</td>
<td>5</td>
<td>1.5</td>
<td>Air</td>
<td>44</td>
</tr>
<tr>
<td>95-66 29-20</td>
<td>6</td>
<td>1</td>
<td>Air</td>
<td>44</td>
</tr>
<tr>
<td>66-33 20-10</td>
<td>10</td>
<td>0.5</td>
<td>Air</td>
<td>44</td>
</tr>
<tr>
<td>33-0 10-0</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Descent rate--10 m/min (33 ft/min).

3. Ascent rate--continuous bleed at the rates shown below.

4. Time at the maximum pressure does not include the compression time.

5. Maximum pressure--may be less than that shown in the table below; it depends on the working pressure of available chamber.

6. Oxygen--may be administered periodically to selected cases as advised by the medical officer.

*Royal Navy Diving Manual (1972).*
ROYAL NAVY TABLE 72—MODIFIED AIR RECOMPRESSION THERAPY*

1. Use—treatment of any decompression symptoms in lieu of the air recompression therapy if a specialist medical officer is present. The table is applicable when multiple recompression of submarine survivors is required.

<table>
<thead>
<tr>
<th>Depth (ft) (meters)</th>
<th>Time (hours)(min)</th>
<th>Rate (meters/hour)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours)(min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>164 50</td>
<td>2**</td>
<td>--</td>
<td>Air</td>
<td>2 5</td>
</tr>
<tr>
<td>164-128 50-39</td>
<td>3 40</td>
<td>3</td>
<td>Air</td>
<td>5 45</td>
</tr>
<tr>
<td>128-95 39-29</td>
<td>5</td>
<td>2</td>
<td>Air</td>
<td>10 45</td>
</tr>
<tr>
<td>95-66 29-20</td>
<td>6</td>
<td>1.5</td>
<td>Air</td>
<td>16 45</td>
</tr>
<tr>
<td>66-33 20-10</td>
<td>10</td>
<td>1</td>
<td>Air</td>
<td>26 45</td>
</tr>
<tr>
<td>33-0 10-0</td>
<td>20</td>
<td>0.5</td>
<td>Air</td>
<td>46 45</td>
</tr>
</tbody>
</table>

2. Descent rate—10 m/min (33 ft/min).

3. Ascent rate—continuous bleed at the rates shown below.

4. Time at maximum pressure does not include the compression time.

5. Maximum pressure—may be less than that shown in the table below.

6. Oxygen—may be administered periodically to selected cases as advised by the medical officer.

**The period of 2 hours can be reduced and decompression started earlier if the patient's symptoms have cleared.

---

ROYAL NAVY TABLE 81—EMERGENCY THERAPY IN THE WATER*

1. Use—when emergency recompression is necessary and has to be carried out in the water because no compression chamber is available.

<table>
<thead>
<tr>
<th>Depth (ft) / (meters)</th>
<th>Time (hours) (min)</th>
<th>Rate min/meter</th>
<th>Breathing media</th>
<th>Total elapsed time (hours) (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>98</td>
<td>30</td>
<td>5</td>
<td>--</td>
<td>Air 6</td>
</tr>
<tr>
<td>98-66</td>
<td>30-20</td>
<td>45</td>
<td>4.5</td>
<td>Air 51</td>
</tr>
<tr>
<td>66-33</td>
<td>20-10</td>
<td>1</td>
<td>20</td>
<td>Air 2</td>
</tr>
<tr>
<td>33-0</td>
<td>10-0</td>
<td>2</td>
<td>30</td>
<td>Air 4</td>
</tr>
</tbody>
</table>

2. Descent rate—approximately 30 m/min (98 ft/min).

3. Ascent rate—continuous ascent at the rates shown.

4. Time at maximum pressure does not include the descent time.

1. Use--treatment of decompression sickness occurring during the decompression from a helium-oxygen dive. Recompress, using pure helium (oxygen partial pressure is kept between 0.2 and 0.6 atmospheres absolute [ATA]) to the depth of complete relief of symptoms, wait 30 minutes at that depth, then decompress in accordance to the following table.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (hours(min))</th>
<th>Rate (ft/hour)</th>
<th>Breathing media</th>
<th>Total elapsed time</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 450</td>
<td>0-137</td>
<td>12</td>
<td>He-0.2</td>
<td>Depends upon</td>
</tr>
<tr>
<td>450-180</td>
<td>137-335</td>
<td>12</td>
<td>He-0.2</td>
<td>the treat-</td>
</tr>
<tr>
<td>180-300</td>
<td>335-550</td>
<td>10</td>
<td>He-0.2</td>
<td>ment depth</td>
</tr>
<tr>
<td>300-450</td>
<td>550-750</td>
<td>8</td>
<td>He-0.2</td>
<td></td>
</tr>
<tr>
<td>450-600</td>
<td>750-950</td>
<td>6</td>
<td>He-0.2</td>
<td></td>
</tr>
<tr>
<td>600-800</td>
<td>950-1150</td>
<td>4</td>
<td>He-0.2</td>
<td></td>
</tr>
<tr>
<td>800-1000</td>
<td>1150-1350</td>
<td>3</td>
<td>He-0.2</td>
<td></td>
</tr>
<tr>
<td>1000-1200</td>
<td>1350-1550</td>
<td>2</td>
<td>He-0.2</td>
<td></td>
</tr>
</tbody>
</table>

2. Descent rate--10 m/min (33 ft/min).

3. Ascent rate--as noted below.

4. Time at the maximum pressure does not include the compression time.

*RMPL Helium Diving Tables (1988).*
FIGURE 38

CIRIA UNDERWATER ENGINEERING TABLE 5—
OXYGEN RECOMPRESSION THERAPY*

1. Use—treatment of decompression sickness occurring during or after a helium-oxygen dive. For divers whose symptoms begin at atmospheric pressure, the initial recompression should be with air to 60 feet (18 m). If full relief does not occur within 10 minutes at 60 feet, further recompression is immediately required. Further recompression is done with helium (oxygen partial pressure is kept between 0.2 and 0.6 ATA) and is to the depth of complete relief. Following 30 minutes at the depth of relief, decompression is according to the table provided.

<table>
<thead>
<tr>
<th>Depth (ft) (meters)</th>
<th>Time (hours)(min)</th>
<th>Rate (ft/hour)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours)(min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 450 &gt;137</td>
<td>--</td>
<td>8</td>
<td>He-O₂</td>
<td>Depends upon starting depth</td>
</tr>
<tr>
<td>450-330 137-101</td>
<td>20</td>
<td>6</td>
<td>He-O₂</td>
<td></td>
</tr>
<tr>
<td>330-250 101-76</td>
<td>20</td>
<td>4</td>
<td>He-O₂</td>
<td></td>
</tr>
<tr>
<td>250-160 76-49</td>
<td>20</td>
<td>3</td>
<td>He-O₂</td>
<td></td>
</tr>
<tr>
<td>160-20 49-6</td>
<td>20</td>
<td>2</td>
<td>He-O₂</td>
<td></td>
</tr>
<tr>
<td>20-0 0</td>
<td>20</td>
<td>1</td>
<td>He-O₂</td>
<td></td>
</tr>
</tbody>
</table>

2. Descent rate—10 m/min.

3. Ascent rate—see table provided.

4. Time at maximum pressure does not include the compression time.

FIGURE 39

FRENCH NAVY RECOMPRESS TREATMENT TABLE 1
(GERS 1962)*

1. Use—treatment of mild decompression sickness when oxygen is available.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (min)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours:min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>98</td>
<td>30</td>
<td>Air</td>
<td>33</td>
</tr>
<tr>
<td>79</td>
<td>24</td>
<td>Air</td>
<td>1:0</td>
</tr>
<tr>
<td>59</td>
<td>18</td>
<td>Air</td>
<td>1:32</td>
</tr>
<tr>
<td>59</td>
<td>18</td>
<td>Oxygen</td>
<td>1:42</td>
</tr>
<tr>
<td>49</td>
<td>15</td>
<td>Air</td>
<td>2:3</td>
</tr>
<tr>
<td>49</td>
<td>15</td>
<td>Oxygen</td>
<td>2:18</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>Air</td>
<td>2:29</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>Oxygen</td>
<td>2:54</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>Oxygen</td>
<td>3:30</td>
</tr>
<tr>
<td>20</td>
<td>6</td>
<td>Oxygen</td>
<td>3:56</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>Oxygen</td>
<td>4:7</td>
</tr>
<tr>
<td>10-0</td>
<td>3-0</td>
<td>Oxygen</td>
<td>4:12</td>
</tr>
</tbody>
</table>

2. Descent rate—10 m/min (33 ft/min).

3. Ascent rate—2 min/m (1.6 ft/min) between stops.

4. Time at 30 meters (98 ft) does not include the compression time.

*GERS (1964).

---

DESCE NT RATE 10 m/ MIN (33 FT/ MIN)

ASCENT RATE 2 m/ MIN (1.6 FT/ MIN)

TOTAL ELAPSED TIME 4 HOURS 12 MINUTES

DEPTH IN FEET

TIME IN MINUTES
1. Use—treatment of mild to moderate decompression sickness when oxygen is available.

2. Descent rate—10 m/min (33 ft/min).

3. Ascent rate—2 m/min (1.6 ft/min) between stops.

4. Time at 50 meters (164 ft) does not include the compression time.

*GERS (1964).
FIGURE 41

FRENCH NAVY RECOMPRESSION TREATMENT TABLE 3
(GERS 1962)*

1. Use—treatment of moderate to severe decompression sickness when oxygen is available.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (hours)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>164</td>
<td>50</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>138</td>
<td>42</td>
<td>15</td>
<td>Air</td>
</tr>
<tr>
<td>118</td>
<td>36</td>
<td>15</td>
<td>Air</td>
</tr>
<tr>
<td>98</td>
<td>30</td>
<td>15</td>
<td>Air</td>
</tr>
<tr>
<td>79</td>
<td>24</td>
<td>15</td>
<td>Air</td>
</tr>
<tr>
<td>59</td>
<td>18</td>
<td>20</td>
<td>Oxygen</td>
</tr>
<tr>
<td>49</td>
<td>15</td>
<td>20</td>
<td>Oxygen</td>
</tr>
<tr>
<td>49</td>
<td>15</td>
<td>20</td>
<td>Oxygen</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>5</td>
<td>Air</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>25</td>
<td>Oxygen</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>6</td>
<td>Alternately Air and Oxygen</td>
</tr>
</tbody>
</table>

2. Descent rate—10 m/min (33 ft/min).

3. Ascent rate—2 min/m (1.6 ft/min) between stops.

4. Time at 50 meters (164 ft) does not include the compression time.

*GERS (1964).

---

**Diagram:**

- **Descent Rate:** 10 m/min (33 ft/min)
- **Ascent Rate:** 2 min/m (1.6 ft/min)
- **Total Elapsed Time:** 12 hours 44 minutes

**Legend:**

- Air
- Oxygen
FRENCH NAVY RECOMPRESSIOn TREATMENT TABLE 4
(GERS 1962)*

1. Use—treatment of severe decompression sickness when oxygen is available.

<table>
<thead>
<tr>
<th>Depth (ft) (meters)</th>
<th>Time (hours:min)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours:min) (hours:min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>164 50</td>
<td>30-120</td>
<td>Air</td>
<td>35 2</td>
</tr>
<tr>
<td>138 42</td>
<td>30</td>
<td>Air</td>
<td>1 2</td>
</tr>
<tr>
<td>118 36</td>
<td>30</td>
<td>Air</td>
<td>2 3</td>
</tr>
<tr>
<td>98 30</td>
<td>30</td>
<td>Air</td>
<td>2 4</td>
</tr>
<tr>
<td>79 24</td>
<td>30</td>
<td>Air</td>
<td>3 4</td>
</tr>
<tr>
<td>59 18</td>
<td>4</td>
<td>Air</td>
<td>7 9</td>
</tr>
<tr>
<td>59 18</td>
<td>4</td>
<td>Alternately O₂-</td>
<td>9 9</td>
</tr>
<tr>
<td>59 18</td>
<td>2</td>
<td>Air every 15 min</td>
<td>9 9</td>
</tr>
<tr>
<td>49 15</td>
<td>3</td>
<td>Air</td>
<td>12 14</td>
</tr>
<tr>
<td>49 15</td>
<td>3</td>
<td>Alternately O₂-</td>
<td>15 15</td>
</tr>
<tr>
<td>39 12</td>
<td>6</td>
<td>Air every 15 min</td>
<td>23 21</td>
</tr>
<tr>
<td>39 12</td>
<td>6</td>
<td>Alternately Air</td>
<td>27 27</td>
</tr>
<tr>
<td>30 9</td>
<td>6</td>
<td>O₂ every 30 min</td>
<td>33 35</td>
</tr>
<tr>
<td>30 9</td>
<td>6</td>
<td>Air</td>
<td>33 35</td>
</tr>
<tr>
<td>20 6</td>
<td>10</td>
<td>Air</td>
<td>34 35</td>
</tr>
<tr>
<td>20 6</td>
<td>50</td>
<td>Oxygen</td>
<td>35 36</td>
</tr>
<tr>
<td>10 3</td>
<td>10</td>
<td>Air</td>
<td>35 36</td>
</tr>
<tr>
<td>10 3</td>
<td>50</td>
<td>Oxygen</td>
<td>36 39</td>
</tr>
<tr>
<td>10-0 3-0</td>
<td>5</td>
<td>Oxygen</td>
<td>36 37</td>
</tr>
</tbody>
</table>

2. Descent rate=10 m/min (33 ft/min).

3. Ascent rate=2 min/m (1.6 ft/min) between stops.

4. Time at 50 meters (164 ft) does not include compression time.

*GERS (1964).
**FIGURE 43**

**FRENCH NAVY RECOMPRESSION TREATMENT TABLE 4A**  
(GERS 1962)*

1. Use--treatment of severe decompression sickness when oxygen is not available.

2. Descent rate--10 m/min (33 ft/min).
   - Depth (ft) (meters) Time (hours)(min) Breathing media Total elapsed time (hours)(min) (hours)(min)
   - 164 50 30-120 Air 35 2
   - 138 42 30 Air 1 21 2 46
   - 118 36 30 Air 2 3 3 28
   - 98 30 30 Air 2 45 4 10
   - 79 24 30 Air 3 27 4 52

3. Ascent rate--2 min/m (1.6 ft/min) between stops.
   - Depth (ft) (meters) Time (hours)(min) Breathing media Total elapsed time (hours)(min) (hours)(min)
   - 164 50 6 Air 9 39 11 4
   - 138 42 6 Air 15 46 17 10
   - 118 36 6 Air 21 51 23 16
   - 98 30 6 Air 33 57 35 22
   - 79 24 6 Air 36 4 37 28

4. Time at 50 meters (164 ft) does not include the compression time.

*GERS (1964).*
FRENCH NAVY AIR RECOMPRESSION TREATMENT TABLE
(GERS 1964)*

1. Use--treatment of decompression sickness when oxygen is not available or the patient cannot tolerate elevated oxygen partial pressures.

2. Descent rate--10 m/min (33 ft/min).

3. Ascent rate--5 minutes between stops.

4. Time at 50 meters (164 ft) does not include the compression time.

*GERS (1964). This appears to be one of two air tables that were forerunners to the current GERS Table D.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (hours)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>164</td>
<td>50</td>
<td>3</td>
<td>Air</td>
</tr>
<tr>
<td>138</td>
<td>42</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>124</td>
<td>36</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>111</td>
<td>34</td>
<td>2</td>
<td>Air</td>
</tr>
<tr>
<td>98</td>
<td>30</td>
<td>4</td>
<td>Air</td>
</tr>
<tr>
<td>85</td>
<td>26</td>
<td>6</td>
<td>Air</td>
</tr>
<tr>
<td>72</td>
<td>22</td>
<td>6</td>
<td>Air</td>
</tr>
<tr>
<td>59</td>
<td>18</td>
<td>6</td>
<td>Air</td>
</tr>
<tr>
<td>49</td>
<td>15</td>
<td>12</td>
<td>Air</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>8</td>
<td>Air</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>8</td>
<td>Air</td>
</tr>
<tr>
<td>20</td>
<td>6</td>
<td>8</td>
<td>Air</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>8</td>
<td>Air</td>
</tr>
</tbody>
</table>

TOTAL ELAPSED TIME 73 HOURS 10 MINUTES
FRENCH NAVY AIR RECOMPRESSIION TREATMENT TABLE
(GERS 1964)*

1. Use--treatment of decompression sickness when oxygen is not available or cannot be tolerated by the patient.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (hours)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>164</td>
<td>50</td>
<td>Air</td>
<td>4</td>
</tr>
<tr>
<td>138</td>
<td>42</td>
<td>Air</td>
<td>4</td>
</tr>
<tr>
<td>124</td>
<td>38</td>
<td>Air</td>
<td>5</td>
</tr>
<tr>
<td>111</td>
<td>34</td>
<td>Air</td>
<td>9</td>
</tr>
<tr>
<td>98</td>
<td>30</td>
<td>Air</td>
<td>13</td>
</tr>
<tr>
<td>85</td>
<td>26</td>
<td>Air</td>
<td>20</td>
</tr>
<tr>
<td>72</td>
<td>22</td>
<td>Air</td>
<td>26</td>
</tr>
<tr>
<td>59</td>
<td>18</td>
<td>Air</td>
<td>32</td>
</tr>
<tr>
<td>49</td>
<td>15</td>
<td>Air</td>
<td>44</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>Air</td>
<td>52</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>Air</td>
<td>60</td>
</tr>
<tr>
<td>20</td>
<td>6</td>
<td>Air</td>
<td>68</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>Air</td>
<td>76</td>
</tr>
<tr>
<td>10-0</td>
<td>3-0</td>
<td>Air</td>
<td>76</td>
</tr>
</tbody>
</table>

2. Descent rate--10 m/min (33 ft/min).
3. Ascent rate--5 minutes between stops.
4. Time at 50 meters (164 ft) does not include the compression time.

*GERS (1964). This Table appears to be one of two air tables that were forerunners to the current GERS Table D.
**FIGURE 46**

**FRENCH NAVY HIGH-OXYGEN RECOMPRESSION TREATMENT TABLE (GERS 1964)**

1. Use—treatment of moderately severe decompression sickness.

2. Descent rate—10 m/min (33 ft/min).

3. Ascent rate—2 min/m (1.6 ft/min) between stops.

4. Time at 30 meters (98 ft) does not include the compression time.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (hours:min)</th>
<th>Breathing media</th>
</tr>
</thead>
<tbody>
<tr>
<td>98</td>
<td>30</td>
<td>30-120</td>
</tr>
<tr>
<td>79</td>
<td>24</td>
<td>60</td>
</tr>
<tr>
<td>69</td>
<td>21</td>
<td>60</td>
</tr>
<tr>
<td>68</td>
<td>18</td>
<td>60</td>
</tr>
<tr>
<td>49</td>
<td>15</td>
<td>2</td>
</tr>
</tbody>
</table>

*GERS (1964). This table appears to be a forerunner to the current GERS Table C.*

---

**Diagram:**
- Descent rate 10 m/min (33 ft/min)
- Ascent rate 2 min/m (1.6 ft/min)
- Total elapsed time between 20 hours 30 minutes and 36 hours 3 minutes

**Legend:**
- Air
- Alternately Oxygen and Air
- Oxygen
FIGURE 47
TREATMENT OF DECOMPRESSION SICKNESS
1968

Mild Symptoms

\(<40\text{m}\) Dive Depth \(\geq 40\text{m}\)

\(\text{GERS OXY A}\) \(\text{GERS OXY B}\)

U.S. Table 1A U.S. Table 2A

Severe Symptoms

\(<40\text{m}\) Dive Depth \(\geq 40\text{m}\)

\(\text{GERS OXY C}\) \(\text{GERS OXY C}\)

\(\text{GERS AIR D or 3A}\) \(\text{GERS AIR D or 3A}\)

Moderate Symptoms

\(<40\text{m}\) Dive Depth \(\geq 40\text{m}\)

\(\text{GERS OXY B}\)

\(\text{GERS OXY C}\)

\(\text{GERS AIR D or 3A}\) \(\text{GERS AIR D or 3A}\)

*From: COMEX Diving Ltd. Medical Book II (1976).*
# French Navy Recompression Treatment Table A
(Gers 1968)*

1. Use—treatment of mild decompression sickness occurring during dives to less than 40 meters (131 ft).

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (min)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours:minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>98</td>
<td>30</td>
<td>40-60% O₂</td>
<td>33</td>
</tr>
<tr>
<td>79</td>
<td>24</td>
<td>60% O₂</td>
<td>15</td>
</tr>
<tr>
<td>69</td>
<td>21</td>
<td>60% O₂</td>
<td>27</td>
</tr>
<tr>
<td>59</td>
<td>18</td>
<td>60% O₂</td>
<td>27</td>
</tr>
<tr>
<td>49</td>
<td>15</td>
<td>100% O₂</td>
<td>39</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>100% O₂</td>
<td>39</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>100% O₂</td>
<td>51</td>
</tr>
<tr>
<td>20</td>
<td>6</td>
<td>100% O₂</td>
<td>27</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>100% O₂</td>
<td>27</td>
</tr>
<tr>
<td>10-0</td>
<td>3-0</td>
<td>100% O₂</td>
<td>33</td>
</tr>
</tbody>
</table>

2. Descent rate—10 m/min (33 ft/min).

3. Ascent rate—2 min/m. (1.64 ft/min) between stops.

4. Time at 30 meters (98 ft) does not include the compression time.

*Gers (1968).

---

**Figure 48**

**Descent Rate 10 m/min (33 ft/min)**

**Ascent Rate 3 minutes between stops**

**Total elapsed time 5 hours 33 minutes**

- **Nitrogen/Oxygen**
- **Oxygen**

**Diagram**

- Depth in feet: 0 to 100
- Time in minutes: 3 to 30
FRENCH NAVY RECOMPRESSION TREATMENT TABLE B
(GERS 1968)*

1. Use--treatment of mild decompression sickness occurring during dives to greater than 40 meters (131 ft) or for moderately severe decompression sickness occurring on dives to less than 40 meters.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (min)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours)(min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>98</td>
<td>30</td>
<td>30</td>
<td>40% O₂</td>
</tr>
<tr>
<td>79</td>
<td>24</td>
<td>30</td>
<td>40-60% O₂</td>
</tr>
<tr>
<td>69</td>
<td>21</td>
<td>30</td>
<td>60% O₂</td>
</tr>
<tr>
<td>59</td>
<td>18</td>
<td>30</td>
<td>60% O₂</td>
</tr>
<tr>
<td>49</td>
<td>15</td>
<td>60</td>
<td>60% O₂</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>60</td>
<td>100% O₂</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>60</td>
<td>100% O₂</td>
</tr>
<tr>
<td>20</td>
<td>6</td>
<td>60</td>
<td>100% O₂</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>60</td>
<td>100% O₂</td>
</tr>
</tbody>
</table>

*GERS (1968).

---

**Figure 49**

- **Descend rate**--10 m/min (33 ft/min).
- **Ascent rate**--2 min/m (1.64 ft/min) between stops.
- **Time at 30 meters** (98 ft) does not include the compression time.

---

**Diagram:**
- **Descend rate** 10 m/min (33 ft/min)
- **Ascent rate** 3 minutes between stops
- **Total elapsed time** 8 hours 3 minutes
- **Depth in feet**
- **Time in minutes**
- **Nitrogen/Oxygen**
- **Oxygen**
### FRENCH NAVY RECOMPRESSISON TREATMENT TABLE C
(GERS 1968)*

1. Use—treatment of moderately severe decompression sickness occurring on dives deeper than 40 meters (131 ft) or for treating severe decompression sickness occurring on dives shallower than 40 meters.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (hours)</th>
<th>Breathing medium</th>
<th>Total elapsed time (hours)(min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>98</td>
<td>30</td>
<td>30-120</td>
<td>40% O₂</td>
</tr>
<tr>
<td>79</td>
<td>24</td>
<td>60</td>
<td>40-60% O₂</td>
</tr>
<tr>
<td>69</td>
<td>21</td>
<td>60</td>
<td>60% O₂</td>
</tr>
<tr>
<td>59</td>
<td>18</td>
<td>60-120</td>
<td>5 min 0₂-15 air or 60% O₂</td>
</tr>
<tr>
<td>49</td>
<td>15</td>
<td>1</td>
<td>30 min 0₂-15 air or 80% O₂</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>2, 6, or 12</td>
<td>1 hour 0₂-1 hour air or 80% O₂</td>
</tr>
</tbody>
</table>

2. Descent rate--10 m/min (33 ft/min).

3. Ascent rate--2 min/m (1.64 ft/min) between stops.

4. Time at 30 meters (98 ft) does not include the compression time.

*GERS (1968). These durations can be extended; the rhythm of administration of oxygen becomes 1 hour (h) oxygen-2 hours air, starting from the 12th hour.

---

### Diagram

**Descent Rate 10 m/min (33 ft/min)**

**Ascent Rate 2 min/m (1.6 ft/min)**

**Total Elapsed Time is Between 14 Hours 29 Minutes and 36 Hours 57 Minutes**

- **Nitrogen/Oxygen**
- **Oxygen**
- **Intermittent Oxygen**

**Depth in Feet**

**Time in Minutes Except Where Noted (h = Hour)**

---

---

---
FRENCH NAVY DECOMPRESSION TREATMENT TABLE D (GERS 1968)"

1. Use—treatment of moderately severe and severe decompression sickness when oxygen is either not available or cannot be tolerated by the patient.

   Depth (ft) (meters) | Time (hours)(min) | Breathing media | Total elapsed time (hours)(min)
   164 50 | 30 | Air | 3
   138 42 | 30 | Air | 3
   118 36 | 30 | Air | 4
   108 33 | 2 | Air | 6
   98 30 | 4 | Air | 10
   89 27 | 4 | Air | 14
   79 24 | 6 | Air | 20
   69 21 | 6 | Air | 27
   59 18 | 6 | Air | 33
   49 15 | 6 | Air | 45
   39 12 | 6-8 | Air | 51
   30 9 | 6-8 | Air | 57
   20 6 | 6-8 | Air | 63
   10 3 | 6-8 | Air | 69
   10-0 3-0 | 6 | Air | 75

GERS (1968).

FIGURE 51

- Descent rate—10 ft/min (33 ft/min).
- Ascent rate—2 min/m (1.64 ft/min) between stops.
- Time at 50 meters (164 ft) does not include the compression time.
FIGURE 52

FRENCH NAVY RECOMPRESSION TREATMENT TABLE 1A
(GERS 1968)*

1. Use--treatment of mild decompression sickness occurring during dives to less than 40 meters (131 ft) when oxygen is not available or the patient can no longer tolerate breathing increased oxygen partial pressures.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (hours)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>98</td>
<td>30</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>79</td>
<td>24</td>
<td>15</td>
<td>Air</td>
</tr>
<tr>
<td>59</td>
<td>18</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>49</td>
<td>15</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>60</td>
<td>Air</td>
</tr>
<tr>
<td>20</td>
<td>6</td>
<td>60</td>
<td>Air</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>2</td>
<td>Air</td>
</tr>
<tr>
<td>10-0</td>
<td>3-0</td>
<td>6</td>
<td>Air</td>
</tr>
</tbody>
</table>

2. Descent rate--10 m/min (33 ft/min).

3. Ascent rate--2 min/m (1.6 ft/min) between stops.

4. Time at 30 meters (98 ft) does not include the compression time.

*GERS (1968).

![Diagram to Figure 52](image-url)
**Figure 53**

**French Navy recompression treatment table 2A**  
(Gers. 1968)*

1. Use—treatment of mild decompression sickness occurring during dives to greater than 40 meters (131 ft) when oxygen is not available or the patient can no longer tolerate the elevated oxygen partial pressure.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (hours:min)</th>
<th>Breathing medium</th>
<th>Total elapsed time (hours:min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>164</td>
<td>50</td>
<td>30 Air</td>
<td>35</td>
</tr>
<tr>
<td>138</td>
<td>42</td>
<td>15 Air</td>
<td>1 6</td>
</tr>
<tr>
<td>118</td>
<td>35</td>
<td>15 Air</td>
<td>1 33</td>
</tr>
<tr>
<td>98</td>
<td>30</td>
<td>15 Air</td>
<td>2 0</td>
</tr>
<tr>
<td>79</td>
<td>24</td>
<td>15 Air</td>
<td>2 27</td>
</tr>
<tr>
<td>59</td>
<td>18</td>
<td>30 Air</td>
<td>3 9</td>
</tr>
<tr>
<td>49</td>
<td>15</td>
<td>30 Air</td>
<td>3 45</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>30 Air</td>
<td>4 21</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>2 Air</td>
<td>6 27</td>
</tr>
<tr>
<td>20</td>
<td>6</td>
<td>2 Air</td>
<td>8 33</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>4 Air</td>
<td>12 39</td>
</tr>
<tr>
<td>10-0</td>
<td>3-0</td>
<td>6 Air</td>
<td>12 45</td>
</tr>
</tbody>
</table>

2. Descent rate—10 m/min (33 ft/min).

3. Ascent rate—2 min/m (1.6 ft/min) between stops.

4. Time at 50 meters (164 ft) does not include the compression time.

*Gers (1968).
**FIGURE 54**

FRENCH NAVY RECOMPRESSIVE TREATMENT TABLE 3A (GERS 1968)*

1. Use—treatment of moderate or severe decompression sickness when oxygen is not available or the patient cannot tolerate the elevated oxygen partial pressure.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (hours) (min)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours) (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>164</td>
<td>50</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>138</td>
<td>42</td>
<td>15</td>
<td>Air</td>
</tr>
<tr>
<td>118</td>
<td>36</td>
<td>15</td>
<td>Air</td>
</tr>
<tr>
<td>98</td>
<td>30</td>
<td>16</td>
<td>Air</td>
</tr>
<tr>
<td>79</td>
<td>24</td>
<td>15</td>
<td>Air</td>
</tr>
<tr>
<td>59</td>
<td>18</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>49</td>
<td>15</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>12</td>
<td>Air</td>
</tr>
<tr>
<td>20</td>
<td>6</td>
<td>2</td>
<td>Air</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>2</td>
<td>Air</td>
</tr>
<tr>
<td>10-0</td>
<td>3-0</td>
<td></td>
<td>Air</td>
</tr>
</tbody>
</table>

2. Descent rate—10 m/min (33 ft/min).

3. Ascent rate—2 min/m (1.6 ft/min) between stops.

4. Time at 50 meters (164 ft) does not include the compression time.

*GERS (1968).
FIGURE 35

Accident following NORMAL DECOMPRESSION

Accident

<table>
<thead>
<tr>
<th>Musculoskeletal Symptoms</th>
<th>Vestibular Symptoms</th>
<th>Neurological Symptoms or Recurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recompress to 8m in 4 mins</td>
<td>Recompress to 50m as fast as possible</td>
<td>Recompress to 30m as fast as possible</td>
</tr>
<tr>
<td>Give O2</td>
<td>Give 50/50</td>
<td>Give 50/50</td>
</tr>
<tr>
<td>Relief of Pain?</td>
<td>CX 30</td>
<td>CX 30</td>
</tr>
</tbody>
</table>

Yes

No

Recompress to 12m

CX 12

Recompress to 16m

CX 18C

Yes

No

Relief of pain in 15 mins

CX 18L

*From: COMEX Diving Ltd. Medical Book II (1976).
Accidents following SHORTENED DECOMPRESSION

Accident

Musculoskeletal Symptoms
- Recompress to 18m in 6 mins
  - Give $O_2$
    - Relief of pain in 12 mins
      - Yes: CX 18C
      - No: CX 18L

Vestibular Symptoms
- Recompress to 30m as fast as possible
  - Give 50/50
    - CX 30

Neurological Symptoms or Recurrence
- Recompress to 30m as fast as possible
  - Give 50/50
    - CX 30

*From: COMEX Diving Ltd. Medical Book II (1976).*
Accidents following SHORTENED DECOMPRESSION
involving HYPEROXIC CRISIS

Accident

Musculoskeletal Symptoms
Recompress to 30m as fast as possible breathing AIR

CX 30A

Vestibular Symptoms
Recompress to 30m as fast as possible breathing AIR

CX 30AL

Neurological Symptoms or Reoccurrence
Recompress to 30m as fast as possible

CX 30AL

*From: COMEX Diving Ltd. Medical Book II (1976).
COMEX THERAPEUTIC TABLE CX 12

1. Use—treatment of musculoskeletal decompression sickness following a normal decompression in which symptoms are relieved within 4 minutes at or less than 8 meters (26 ft).

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (min)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours:min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>26</td>
<td>8</td>
<td>4</td>
<td>Oxygen</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>20</td>
<td>Oxygen</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>5</td>
<td>Air</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>20</td>
<td>Oxygen</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>5</td>
<td>Air</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>20</td>
<td>Oxygen</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>5</td>
<td>Air</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>20</td>
<td>Oxygen</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>5</td>
<td>Air</td>
</tr>
<tr>
<td>39-0</td>
<td>12-0</td>
<td>24</td>
<td>Oxygen</td>
</tr>
</tbody>
</table>

2. Descent rate—need not be rapid, 2-3 m/min (6.6-10 ft/min).

3. Ascent rate—0.5 m/min (1.6 ft/min).

4. Time at 12 meters does not include the compression time or time spent at 8 meters.

*COMEX (1976).

TOTAL ELAPSED TIME 130 MINUTES

<table>
<thead>
<tr>
<th>Depth in Feet</th>
<th>Time in Minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>4</td>
</tr>
<tr>
<td>30</td>
<td>12</td>
</tr>
<tr>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>10</td>
<td>24</td>
</tr>
<tr>
<td>0</td>
<td>24</td>
</tr>
</tbody>
</table>

DESCEnt RATE 2 m/MIN (7 FT/MIN)

ASCENT RATE 0.5 m/MIN (2 FT/MIN)
**COMEX THERAPEUTIC TABLE 18**

1. Use—treatment of musculoskeletal decompression sickness following either a normal or shortened decompression where symptoms are not relieved within 4 minutes at 8 meters, but are relieved within 15 minutes at or less than 18 meters (59 ft).

<table>
<thead>
<tr>
<th>Depth (ft) (meters)</th>
<th>Time (min)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours:minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-26 0-8</td>
<td>4</td>
<td>Oxygen</td>
<td>4</td>
</tr>
<tr>
<td>26-59 8-18</td>
<td>5</td>
<td>Oxygen</td>
<td>9</td>
</tr>
<tr>
<td>59 18</td>
<td>20</td>
<td>Oxygen</td>
<td>29</td>
</tr>
<tr>
<td>59 18</td>
<td>5</td>
<td>Air</td>
<td>34</td>
</tr>
<tr>
<td>59 18</td>
<td>20</td>
<td>Oxygen</td>
<td>54</td>
</tr>
<tr>
<td>59 18</td>
<td>5</td>
<td>Air</td>
<td>59</td>
</tr>
<tr>
<td>59-39 18-12</td>
<td>36</td>
<td>Oxygen</td>
<td>1:35</td>
</tr>
<tr>
<td>39 12</td>
<td>5</td>
<td>Air</td>
<td>1:40</td>
</tr>
<tr>
<td>39 12</td>
<td>20</td>
<td>Oxygen</td>
<td>2:0</td>
</tr>
<tr>
<td>39 12</td>
<td>5</td>
<td>Air</td>
<td>2:5</td>
</tr>
<tr>
<td>39 12</td>
<td>20</td>
<td>Oxygen</td>
<td>2:25</td>
</tr>
<tr>
<td>39 12</td>
<td>5</td>
<td>Air</td>
<td>2:30</td>
</tr>
<tr>
<td>39-0 12-0</td>
<td>24</td>
<td>Oxygen</td>
<td>2:54</td>
</tr>
</tbody>
</table>

2. Descent rate—not be rapid, 2-3 m/min (7-10 ft/min).
3. Ascent rate—6 min/m between 18 and 12 meters 2 min/m between 12 and 0 meters.
4. Time at 18 meters does not include the compression time.

*COMEX (1976).

**TOTAL ELAPSED TIME 174 MINUTES**

- **AIR**
- **OXYGEN**

**DEPTH IN FEET**

**TIME IN MINUTES**

**DESCRIPTIVE DIAGRAM**

- **DESCENT RATE**: 2 m/MIN
- **ASCENT RATE**: 6 min/m
- **ASCENT RATE**: 2 min/m
**COMEX THERAPEUTIC TABLE 18**

1. Use—treatment of musculoskeletal decompression sickness following either a normal or shortened decompression in which symptoms were not relieved within 4 minutes at 6 meters, nor were they relieved within 15 minutes at 18 meters.

<table>
<thead>
<tr>
<th>Depth (ft) (meters)</th>
<th>Time (min)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours) (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-26 0-8</td>
<td>4</td>
<td>Oxygen</td>
<td>4</td>
</tr>
<tr>
<td>26-59 8-18</td>
<td>5</td>
<td>Oxygen</td>
<td>9</td>
</tr>
<tr>
<td>59 18 20</td>
<td>5</td>
<td>Oxygen</td>
<td>34</td>
</tr>
<tr>
<td>59 18 20</td>
<td>5</td>
<td>Oxygen</td>
<td>64</td>
</tr>
<tr>
<td>59 18 20</td>
<td>5</td>
<td>Oxygen</td>
<td>19</td>
</tr>
<tr>
<td>59 18 20</td>
<td>5</td>
<td>Air</td>
<td>19</td>
</tr>
<tr>
<td>59 18 20</td>
<td>5</td>
<td>Oxygen</td>
<td>24</td>
</tr>
<tr>
<td>59 18 20</td>
<td>5</td>
<td>Oxygen</td>
<td>2</td>
</tr>
<tr>
<td>59 18 20</td>
<td>5</td>
<td>Air</td>
<td>10</td>
</tr>
<tr>
<td>59 18 20</td>
<td>5</td>
<td>Oxygen</td>
<td>3</td>
</tr>
<tr>
<td>59 18 20</td>
<td>5</td>
<td>Air</td>
<td>3</td>
</tr>
<tr>
<td>59 18 20</td>
<td>5</td>
<td>Oxygen</td>
<td>3</td>
</tr>
<tr>
<td>59 18 20</td>
<td>5</td>
<td>Air</td>
<td>3</td>
</tr>
<tr>
<td>59 18 20</td>
<td>5</td>
<td>Oxygen</td>
<td>4</td>
</tr>
<tr>
<td>59 18 20</td>
<td>5</td>
<td>Air</td>
<td>4</td>
</tr>
<tr>
<td>59 18 20</td>
<td>5</td>
<td>Oxygen</td>
<td>4</td>
</tr>
</tbody>
</table>

2. Descent rate—need not be rapid, 2-3 m/min (7-10 ft/min).

3. Ascent rate—6 min/m between 18 and 12 meters, 2 min/m between 12 and 0 meters.

4. Time at 18 meters does not include the compression time.

*COMEX (1976).

---

**TOTAL ELAPSED TIME** 4 HOURS 59 MINUTES

---

**Diagram:**

- **Descent Rate:** 2 m/min
- **Ascent Rate:** 6 min/m
- **Oxygen**
### COMEX THERAPEUTIC TABLE CX 30°

1. Use--treatment of vestibular and general neurological decompression sickness occurring after either a normal or shorted decompression.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (min)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours)(min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>30</td>
<td>40</td>
<td>50/50</td>
</tr>
<tr>
<td>98-79</td>
<td>30-24</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>98</td>
<td>30</td>
<td>5</td>
<td>50/50</td>
</tr>
<tr>
<td>79</td>
<td>24</td>
<td>6</td>
<td>Air</td>
</tr>
<tr>
<td>79</td>
<td>24</td>
<td>25</td>
<td>50/50</td>
</tr>
<tr>
<td>79-59</td>
<td>24-18</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>59</td>
<td>18</td>
<td>5</td>
<td>50/50</td>
</tr>
<tr>
<td>59</td>
<td>18</td>
<td>25</td>
<td>Air</td>
</tr>
<tr>
<td>59</td>
<td>18</td>
<td>5</td>
<td>Oxygen</td>
</tr>
<tr>
<td>59</td>
<td>18</td>
<td>25</td>
<td>Oxygen</td>
</tr>
<tr>
<td>59-39</td>
<td>18-12</td>
<td>30</td>
<td>Oxygen</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>10</td>
<td>Air</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>45</td>
<td>Oxygen</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>10</td>
<td>Air</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>45</td>
<td>Oxygen</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>10</td>
<td>Oxygen</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>45</td>
<td>Air</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>10</td>
<td>Oxygen</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>45</td>
<td>Air</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>10</td>
<td>Oxygen</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>45</td>
<td>Air</td>
</tr>
<tr>
<td>39-0</td>
<td>12-0</td>
<td>24</td>
<td>Oxygen</td>
</tr>
</tbody>
</table>

2. Descent rate--as quickly as possible, in 2 or 3 minutes.

3. Ascent rate--between 30 and 24 meters--5 min/m
   - 24 and 18 meters--5 min/m
   - 18 and 12 meters--5 min/m
   - 12 and 0 meters--2 min/m

4. Time at 30 meters does not include the compression time.

*COMEX (1976).*

---

**Figure 61**

**Descent Rate 10 m/min**

**Total Elapsed Time 7 Hours 2 Minutes**

- 50/50 Helium/Oxygen or Nitrogen/Oxygen
- Oxygen
- Air

**Depth in Feet**

**Time in Minutes**
**COMEX THERAPEUTIC TABLE CX 30 A**

1. Use—treatment of musculoskeletal decompression sickness when signs of oxygen poisoning are present.

<table>
<thead>
<tr>
<th>Depth (ft) (meters)</th>
<th>Time (hours/min)</th>
<th>Rate (min/meter)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>98-30</td>
<td>1</td>
<td>-</td>
<td>Air</td>
<td>1 3</td>
</tr>
<tr>
<td>98-79 30-24</td>
<td>1</td>
<td>-</td>
<td>Air</td>
<td>1 9</td>
</tr>
<tr>
<td>79-69 24-21</td>
<td>1</td>
<td>-</td>
<td>Air</td>
<td>2 9</td>
</tr>
<tr>
<td>69-59 21-18</td>
<td>1</td>
<td>-</td>
<td>Air</td>
<td>3 15</td>
</tr>
<tr>
<td>59-49 18-15</td>
<td>1</td>
<td>-</td>
<td>Air</td>
<td>4 27</td>
</tr>
<tr>
<td>49-39 15-12</td>
<td>1</td>
<td>-</td>
<td>Air</td>
<td>5 45</td>
</tr>
<tr>
<td>39 12</td>
<td>1</td>
<td>-</td>
<td>Oxygen</td>
<td>5 55</td>
</tr>
<tr>
<td>39 12</td>
<td>1</td>
<td>-</td>
<td>Oxygen</td>
<td>6 35</td>
</tr>
<tr>
<td>39 12</td>
<td>1</td>
<td>-</td>
<td>Oxygen</td>
<td>6 45</td>
</tr>
<tr>
<td>39 12</td>
<td>1</td>
<td>-</td>
<td>Oxygen</td>
<td>7 25</td>
</tr>
<tr>
<td>39 12</td>
<td>1</td>
<td>-</td>
<td>Oxygen</td>
<td>7 35</td>
</tr>
<tr>
<td>39 12</td>
<td>1</td>
<td>-</td>
<td>Oxygen</td>
<td>8 15</td>
</tr>
<tr>
<td>39 12</td>
<td>1</td>
<td>-</td>
<td>Oxygen</td>
<td>8 20</td>
</tr>
<tr>
<td>39 0 12-0</td>
<td>24</td>
<td>2</td>
<td>Oxygen</td>
<td>8 44</td>
</tr>
</tbody>
</table>

2. Descent rate—as quickly or possible using air, 2 to 3 minutes.

3. Ascend rate—continuous ascent at the rates shown below.

4. Time at 30 meters (98 ft) does not include the compression time.

*COMEX (1976).*

---

**Diagram:**

- **Descend Rate:** 10 m/min (33 ft/min)
- **Ascent Rate:**
  - 1 MIN/m
  - 20 MIN/m
  - 22 MIN/m
  - 24 MIN/m
  - 26 MIN/m
- **Total Elapsed Time:** 8 hours 44 minutes

- **Breathing media:**
  - Air
  - Oxygen

**Graph:**

- Depth in feet
- Time in minutes

---

*Figure 62*
COMEX THERAPEUTIC TABLE CX 30 AL*

1. Use—treatment of vestibular and general neurological decompression sickness when signs of oxygen poisoning are present.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (hours)(min)</th>
<th>Rate (min/meter)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours)(min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>98-30</td>
<td>1 30</td>
<td>-</td>
<td>Air</td>
<td>1 33</td>
</tr>
<tr>
<td>98-79</td>
<td>30-24 1 6</td>
<td>1</td>
<td>Air</td>
<td>1 39</td>
</tr>
<tr>
<td>79-69</td>
<td>24-21 1 15</td>
<td>25</td>
<td>Air</td>
<td>2 34</td>
</tr>
<tr>
<td>69-59</td>
<td>21-18 1 30</td>
<td>30</td>
<td>Air</td>
<td>4 24</td>
</tr>
<tr>
<td>59-49</td>
<td>18-15 1 45</td>
<td>35</td>
<td>Air</td>
<td>6 9</td>
</tr>
<tr>
<td>49-39</td>
<td>15-12 1 40</td>
<td>40</td>
<td>Air</td>
<td>8 9</td>
</tr>
<tr>
<td>39-39</td>
<td>12 1 10</td>
<td>-</td>
<td>Oxygen</td>
<td>8 19</td>
</tr>
<tr>
<td>39-39</td>
<td>12 1 10</td>
<td>-</td>
<td>Oxygen</td>
<td>9 9</td>
</tr>
<tr>
<td>39-39</td>
<td>12 1 40</td>
<td>-</td>
<td>Oxygen</td>
<td>10 39</td>
</tr>
<tr>
<td>39-39</td>
<td>12 1 10</td>
<td>-</td>
<td>Air</td>
<td>10 44</td>
</tr>
<tr>
<td>39-0</td>
<td>12-0 24</td>
<td>2</td>
<td>Oxygen</td>
<td>11 6</td>
</tr>
</tbody>
</table>

2. Descent rate—as quickly as possible with air, 2-3 minutes.

3. Ascent rate—for the continuous portion of the ascent the rates are shown in the table provided.

4. Time at 30 meters does not include the compression time.

*COMEX (1976).

---

**Figure 63**

**Descent Rate 10 m/min (33 ft/min)**

**Ascent Rate**

**Total Elapsed Time 11 Hours 8 Minutes**

- AIR
- OXYGEN

**Depth in Feet**

3 90 6 75 90 120 10 40 10 40 10 5 24

**Time in Minutes**

0 100 80 60 40 20 0
RUSSIAN THERAPEUTIC RECOMPRESSION REGIMEN 1*

1. Use—treatment of light forms of decompression sickness (itching of the skin, skin rash, or light muscular pains and pains in the joints) in cases where the symptoms are completely relieved upon reaching a pressure equivalent to 96 feet.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (hours)</th>
<th>Breathing Media</th>
<th>Total elapsed time (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>160</td>
<td>49</td>
<td>15 Air</td>
<td>20</td>
</tr>
<tr>
<td>160-125</td>
<td>49-38</td>
<td>3 Air</td>
<td>23</td>
</tr>
<tr>
<td>125</td>
<td>38</td>
<td>1 Air</td>
<td>24</td>
</tr>
<tr>
<td>115</td>
<td>35</td>
<td>2 Air</td>
<td>26</td>
</tr>
<tr>
<td>106</td>
<td>32</td>
<td>2 Air</td>
<td>28</td>
</tr>
<tr>
<td>96</td>
<td>29</td>
<td>3 Air</td>
<td>31</td>
</tr>
<tr>
<td>86</td>
<td>26</td>
<td>5 Air</td>
<td>36</td>
</tr>
<tr>
<td>77</td>
<td>23</td>
<td>8 Air</td>
<td>44</td>
</tr>
<tr>
<td>67</td>
<td>20</td>
<td>10 Air</td>
<td>54</td>
</tr>
<tr>
<td>58</td>
<td>18</td>
<td>10 Air</td>
<td>1 4</td>
</tr>
<tr>
<td>51</td>
<td>16</td>
<td>15 Air</td>
<td>1 19</td>
</tr>
<tr>
<td>45</td>
<td>14</td>
<td>20 Air</td>
<td>1 39</td>
</tr>
<tr>
<td>38</td>
<td>12</td>
<td>30 Air</td>
<td>2 9</td>
</tr>
<tr>
<td>32</td>
<td>10</td>
<td>40 Air</td>
<td>2 49</td>
</tr>
<tr>
<td>26</td>
<td>8</td>
<td>1 Air</td>
<td>3 49</td>
</tr>
<tr>
<td>19</td>
<td>6</td>
<td>1 50 Air</td>
<td>5 39</td>
</tr>
<tr>
<td>13</td>
<td>4</td>
<td>3 Air</td>
<td>8 39</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>4 30 Air</td>
<td>13 9</td>
</tr>
</tbody>
</table>

2. Descent rate—33 ft/min.

3. Ascent rate—1-2 minutes are taken between decompression stops and the time is included in the time of the next stop.

4. Time at maximum pressure does not include the compression time.

*Shikanov (1973).
RUSSIAN THERAPEUTIC RECOMPRESSION REGIMEN II*

1. Use—treatment of light forms of decompression sickness in cases where the symptoms completely disappear upon reaching 160 ft. Regimen II is also used when there is a recurrence of symptoms while treating with Regimen I.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (hours)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>160</td>
<td>49</td>
<td>Air</td>
<td>35</td>
</tr>
<tr>
<td>160-125</td>
<td>49-38</td>
<td>Air</td>
<td>40</td>
</tr>
<tr>
<td>125</td>
<td>38</td>
<td>Air</td>
<td>43</td>
</tr>
<tr>
<td>115</td>
<td>35</td>
<td>Air</td>
<td>46</td>
</tr>
<tr>
<td>106</td>
<td>32</td>
<td>Air</td>
<td>51</td>
</tr>
<tr>
<td>96</td>
<td>29</td>
<td>Air</td>
<td>59</td>
</tr>
<tr>
<td>86</td>
<td>25</td>
<td>Air</td>
<td>69</td>
</tr>
<tr>
<td>77</td>
<td>23</td>
<td>Air</td>
<td>79</td>
</tr>
<tr>
<td>67</td>
<td>20</td>
<td>Air</td>
<td>89</td>
</tr>
<tr>
<td>58</td>
<td>18</td>
<td>Air</td>
<td>99</td>
</tr>
<tr>
<td>51</td>
<td>16</td>
<td>Air</td>
<td>109</td>
</tr>
<tr>
<td>45</td>
<td>14</td>
<td>Air</td>
<td>119</td>
</tr>
<tr>
<td>38</td>
<td>12</td>
<td>Air</td>
<td>129</td>
</tr>
<tr>
<td>32</td>
<td>10</td>
<td>Air</td>
<td>139</td>
</tr>
<tr>
<td>26</td>
<td>8</td>
<td>Air</td>
<td>149</td>
</tr>
<tr>
<td>19</td>
<td>6</td>
<td>Air</td>
<td>159</td>
</tr>
<tr>
<td>13</td>
<td>4</td>
<td>Air</td>
<td>169</td>
</tr>
<tr>
<td>6-0</td>
<td>2-0</td>
<td>Air</td>
<td>279</td>
</tr>
</tbody>
</table>

2. Descent rate—33 ft/min.

3. Ascent rate—1-2 minutes between decompression stops; the time is included in the time of the next stop.

4. Time to maximum pressure does not include the compressor time.

*Shikanov (1973).
FIGURE 66

RUSSIAN THERAPEUTIC RECOMPRESSION REGIMEN III*

1. Use--treatment of decompression sickness of medium severity (persistent pains in the joints and muscular pains without expressed disturbances of the motor function of the extremities, significant quickening of the pulse and respiration, etc.). Also use Regimen III when there is a recurrence of symptoms while treating with Regimen II.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (hours)(min)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours)(min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>224</td>
<td>68</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>173</td>
<td>53</td>
<td>3</td>
<td>Air</td>
</tr>
<tr>
<td>163</td>
<td>50</td>
<td>3</td>
<td>Air</td>
</tr>
<tr>
<td>154</td>
<td>47</td>
<td>3</td>
<td>Air</td>
</tr>
<tr>
<td>144</td>
<td>44</td>
<td>3</td>
<td>Air</td>
</tr>
<tr>
<td>134</td>
<td>41</td>
<td>5</td>
<td>Air</td>
</tr>
<tr>
<td>125</td>
<td>38</td>
<td>5</td>
<td>Air</td>
</tr>
<tr>
<td>115</td>
<td>35</td>
<td>10</td>
<td>Air</td>
</tr>
<tr>
<td>106</td>
<td>32</td>
<td>15</td>
<td>Air</td>
</tr>
<tr>
<td>96</td>
<td>29</td>
<td>20</td>
<td>Air</td>
</tr>
<tr>
<td>86</td>
<td>26</td>
<td>25</td>
<td>Air</td>
</tr>
<tr>
<td>77</td>
<td>23</td>
<td>40</td>
<td>Air</td>
</tr>
<tr>
<td>67</td>
<td>20</td>
<td>10</td>
<td>Air</td>
</tr>
<tr>
<td>58</td>
<td>18</td>
<td>1</td>
<td>Air</td>
</tr>
<tr>
<td>51</td>
<td>16</td>
<td>1</td>
<td>Air</td>
</tr>
<tr>
<td>45</td>
<td>14</td>
<td>2</td>
<td>Air</td>
</tr>
<tr>
<td>38</td>
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<td>3</td>
<td>Air</td>
</tr>
<tr>
<td>32</td>
<td>10</td>
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<td>Air</td>
</tr>
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<td>3</td>
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</tr>
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<td>4</td>
<td>Air</td>
</tr>
<tr>
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<td>4</td>
<td>4</td>
<td>Air</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>6-0</td>
<td>2-0</td>
<td>2</td>
<td>Air</td>
</tr>
</tbody>
</table>

2. Descent rate--33 ft/min.

3. Ascent rate--1-2 minutes between decompression stops; the time is included in the time of the next stop.

4. Time until the maximum pressure does not include the compression time.

*Shikanov (1979).
RUSSIAN THERAPEUTIC RECOMPRESSION REGIMEN IV*

1. Use—treatment of severe forms of decompression sickness (loss of consciousness, paresthesia and paralysis, disturbances of the activity of the cardiovascular system and respiration). Also use Regimen IV when there is a recurrence of symptoms while treating with Regimen III.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (hours/minute)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours/minute)</th>
</tr>
</thead>
<tbody>
<tr>
<td>320</td>
<td>97</td>
<td>15</td>
<td>Air</td>
</tr>
<tr>
<td>320-499</td>
<td>97-76</td>
<td>10</td>
<td>Air</td>
</tr>
<tr>
<td>249</td>
<td>76</td>
<td>5</td>
<td>Air</td>
</tr>
<tr>
<td>240</td>
<td>73</td>
<td>5</td>
<td>Air</td>
</tr>
<tr>
<td>230</td>
<td>70</td>
<td>5</td>
<td>Air</td>
</tr>
<tr>
<td>221</td>
<td>67</td>
<td>5</td>
<td>Air</td>
</tr>
<tr>
<td>211</td>
<td>64</td>
<td>5</td>
<td>Air</td>
</tr>
<tr>
<td>201</td>
<td>61</td>
<td>5</td>
<td>Air</td>
</tr>
<tr>
<td>192</td>
<td>58</td>
<td>5</td>
<td>Air</td>
</tr>
<tr>
<td>182</td>
<td>56</td>
<td>5</td>
<td>Air</td>
</tr>
<tr>
<td>173</td>
<td>53</td>
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<td>Air</td>
</tr>
<tr>
<td>163</td>
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<td>10</td>
<td>Air</td>
</tr>
<tr>
<td>154</td>
<td>47</td>
<td>10</td>
<td>Air</td>
</tr>
<tr>
<td>144</td>
<td>44</td>
<td>10</td>
<td>Air</td>
</tr>
<tr>
<td>134</td>
<td>41</td>
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<td>Air</td>
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<td>125</td>
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<td>15</td>
<td>Air</td>
</tr>
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<td>35</td>
<td>20</td>
<td>Air</td>
</tr>
<tr>
<td>106</td>
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<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>96</td>
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<td>40</td>
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</tr>
<tr>
<td>86</td>
<td>26</td>
<td>1</td>
<td>Air</td>
</tr>
<tr>
<td>77</td>
<td>23</td>
<td>1</td>
<td>Air</td>
</tr>
<tr>
<td>67</td>
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<td>Air</td>
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<tr>
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<td>2</td>
<td>Air</td>
</tr>
<tr>
<td>51</td>
<td>16</td>
<td>2</td>
<td>Air</td>
</tr>
<tr>
<td>48</td>
<td>14</td>
<td>2</td>
<td>Air</td>
</tr>
<tr>
<td>45</td>
<td>12</td>
<td>2</td>
<td>Air</td>
</tr>
<tr>
<td>38</td>
<td>10</td>
<td>3</td>
<td>Air</td>
</tr>
<tr>
<td>32</td>
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</tr>
<tr>
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<td>3</td>
<td>Air</td>
</tr>
<tr>
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<td>Air</td>
</tr>
<tr>
<td>13</td>
<td>2</td>
<td>4</td>
<td>Air</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>4</td>
<td>Air</td>
</tr>
<tr>
<td>6-0</td>
<td>2-0</td>
<td>2</td>
<td>Air</td>
</tr>
</tbody>
</table>

2. Descent rate—32 ft/min.

3. Ascent rate—1-2 minutes between decompression stops; the time is included in the time of the next stop.

4. Time at the maximum pressure does not include the compression time.

*Shikanov (1973).
FIGURE 68

RUSSIAN THERAPEUTIC RECOMPRESSION REGIMEN V

1. Use—treatment of especially severe forms of decompression sickness involving severe disturbances of the activity of the central nervous system, the cardiovascular system, and the respiratory system where no relief is obtained within 15 minutes at 320 ft. Also use Regimen V when there is a recurrence of symptoms while treating with Regimen IV.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (hours:min)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours:min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>320</td>
<td>97</td>
<td>1:0</td>
<td>He-N₂-O₂ 1:10</td>
</tr>
<tr>
<td>320-259</td>
<td>97-79</td>
<td>1:15</td>
<td>He-N₂-O₂ 1:25</td>
</tr>
<tr>
<td>259</td>
<td>79</td>
<td>2:0</td>
<td></td>
</tr>
<tr>
<td>249</td>
<td>76</td>
<td>2:25</td>
<td></td>
</tr>
<tr>
<td>240</td>
<td>73</td>
<td>2:30</td>
<td></td>
</tr>
<tr>
<td>230</td>
<td>70</td>
<td>3:35</td>
<td></td>
</tr>
<tr>
<td>221</td>
<td>67</td>
<td>3:40</td>
<td></td>
</tr>
<tr>
<td>211</td>
<td>64</td>
<td>4:50</td>
<td></td>
</tr>
<tr>
<td>201</td>
<td>61</td>
<td>5:10</td>
<td></td>
</tr>
<tr>
<td>192</td>
<td>58</td>
<td>6:10</td>
<td></td>
</tr>
<tr>
<td>182</td>
<td>56</td>
<td>8:30</td>
<td></td>
</tr>
<tr>
<td>173</td>
<td>53</td>
<td>10:40</td>
<td></td>
</tr>
<tr>
<td>163</td>
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<td>12:0</td>
<td></td>
</tr>
<tr>
<td>154</td>
<td>47</td>
<td>14:10</td>
<td></td>
</tr>
<tr>
<td>144</td>
<td>44</td>
<td>16:30</td>
<td></td>
</tr>
<tr>
<td>134</td>
<td>41</td>
<td>19:40</td>
<td></td>
</tr>
<tr>
<td>125</td>
<td>38</td>
<td>22:30</td>
<td></td>
</tr>
<tr>
<td>115</td>
<td>35</td>
<td>25:30</td>
<td></td>
</tr>
<tr>
<td>106</td>
<td>32</td>
<td>28:20</td>
<td></td>
</tr>
<tr>
<td>96</td>
<td>29</td>
<td>32:10</td>
<td></td>
</tr>
<tr>
<td>86</td>
<td>26</td>
<td>36:10</td>
<td></td>
</tr>
<tr>
<td>77</td>
<td>23</td>
<td>41:15</td>
<td></td>
</tr>
<tr>
<td>67</td>
<td>20</td>
<td>46:15</td>
<td></td>
</tr>
<tr>
<td>58</td>
<td>18</td>
<td>50:25</td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>15</td>
<td>54:35</td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>14</td>
<td>59:5</td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>12</td>
<td>63:35</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>10</td>
<td>68:5</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>8</td>
<td>72:35</td>
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</tr>
<tr>
<td>19</td>
<td>6</td>
<td>77:5</td>
<td></td>
</tr>
<tr>
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<td>4</td>
<td>82:5</td>
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<tr>
<td>6</td>
<td>2</td>
<td>87:5</td>
<td></td>
</tr>
<tr>
<td>6-0</td>
<td>2-0</td>
<td>87:7</td>
<td></td>
</tr>
</tbody>
</table>

2. Descent rate--32 ft/min.
3. Ascent rate--1-2 minutes between decompression stops; the time is included in the time of the next stop.
4. Time at the maximum pressure does not include the compression time.
5. Regimen V can be used with either air or helium-nitrogen-oxygen. When the latter is used, the chamber is compressed with air to 224 ft; the remainder of the compression to 320 ft is done with pure helium.

*Shikanov (1973).
GERMAN SHORT AIR RECOMPRESSION TREATMENT TABLE USED DURING THE RENSBURG PEDESTRIAN TUNNEL PROJECT

1. Use---treatment of mild cases of decompression sickness when relief is obtained within 30 minutes at 98 feet (30 meters).

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (min)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours)(min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>98</td>
<td>30</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>98-30</td>
<td>30-9</td>
<td>5.5</td>
<td>Air</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>30-20</td>
<td>9-6</td>
<td>3</td>
<td>Air</td>
</tr>
<tr>
<td>20</td>
<td>6</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>20-10</td>
<td>6-3</td>
<td>3</td>
<td>Air</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>10-0</td>
<td>3-0</td>
<td>3</td>
<td>Air</td>
</tr>
</tbody>
</table>

2. Descent rate---assumed to be 10 m/min.

3. Ascent rate---as shown in the table listed.

4. Time at treatment depth does not include the compression time.

*Wunsche, Hartmann, and Fust (1964).*
GERMAN RECOMPRESSION TREATMENT TABLE USED DURING THE REINDBURG PEDESTRIAN TUNNEL PROJECT*

1. Use—treatment of mild decompression sickness when relief is not obtained within 30 minutes at 98 feet (30 m).

<table>
<thead>
<tr>
<th>Depth (ft) (meters)</th>
<th>Time (min)</th>
<th>Breathing media</th>
<th>Total elapsed time (hours/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>98</td>
<td>30</td>
<td>Air</td>
<td>33</td>
</tr>
<tr>
<td>98-79</td>
<td>30</td>
<td>Air</td>
<td>36</td>
</tr>
<tr>
<td>79</td>
<td>24</td>
<td>Air</td>
<td>6</td>
</tr>
<tr>
<td>79-69</td>
<td>24</td>
<td>Air</td>
<td>1</td>
</tr>
<tr>
<td>59</td>
<td>18</td>
<td>Air</td>
<td>9</td>
</tr>
<tr>
<td>59-39</td>
<td>12-12</td>
<td>Air</td>
<td>42</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>Air</td>
<td>12</td>
</tr>
<tr>
<td>39-30</td>
<td>12-9</td>
<td>Air</td>
<td>15</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>Oxygen</td>
<td>45</td>
</tr>
<tr>
<td>30-20</td>
<td>9-6</td>
<td>Oxygen</td>
<td>15</td>
</tr>
<tr>
<td>20</td>
<td>6</td>
<td>Oxygen</td>
<td>48</td>
</tr>
<tr>
<td>20-10</td>
<td>6-3</td>
<td>Oxygen</td>
<td>18</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>Oxygen</td>
<td>21</td>
</tr>
<tr>
<td>10-0</td>
<td>3-0</td>
<td>Oxygen</td>
<td>24</td>
</tr>
</tbody>
</table>

2. Descent rate—assumed to be 10 m/min.

3. Ascent rate—as shown in the table listed.

4. Time at treatment depth does not include the compression time.

*Wunsche, Hartmann, and Fust (1964).
1. Use—treatment of severe decompression sickness when relief is obtained within 30 minutes at 98 feet (30 m).

2. Descent rate—assumed to be 10 m/min.

3. Ascent rate—3 minutes between stops.

4. Time at 98 feet (30 m) does not include the compression time.

*Wunsche, Hartmann, and Fust (1964).

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time (hours)</th>
<th>Breathing media</th>
</tr>
</thead>
<tbody>
<tr>
<td>98</td>
<td>30</td>
<td>Air</td>
</tr>
<tr>
<td>79</td>
<td>24</td>
<td>Air</td>
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<tr>
<td>59</td>
<td>18</td>
<td>Air</td>
</tr>
<tr>
<td>49</td>
<td>15</td>
<td>Air</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>Air</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>Oxygen</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>Oxygen</td>
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<tr>
<td>20</td>
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<td>Air</td>
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<td>20</td>
<td>6</td>
<td>Oxygen</td>
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<tr>
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<td>3</td>
<td>Oxygen</td>
</tr>
<tr>
<td>10-0</td>
<td>3-0</td>
<td>Oxygen</td>
</tr>
</tbody>
</table>

Total elapsed time (hours) (min)

- 1
- 3
- 2
- 9
- 2
- 42
- 3
- 15
- 14
- 18
- 15
- 21
- 16
- 24
- 17
- 27
- 18
- 30
- 19
- 33
- 19
- 34

---

**FIGURE 71**

- Descent rate 10 m/min (33 ft/min)
- Ascent rate 3 minutes between stops
- Total elapsed time 19 hours 34 minutes

**Legend:**
- Air
- Oxygen

**Graph:**
- Depth in feet
- Time in minutes except otherwise stated (h = hours)
FIGURE 72

GERMAN RECOMPRESSION TREATMENT TABLE USED DURING THE RENDSBURG PEDESTRIAN TUNNEL PROJECT

1. Use—treatment of severe decompression sickness when relief is not obtained within 30 minutes at 98 feet.

<table>
<thead>
<tr>
<th>Depth (ft) (meters)</th>
<th>Time (hours)(min)</th>
<th>Breathing media</th>
<th>Total** elapsed time (hours)(min)(min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>98</td>
<td>30</td>
<td>Air</td>
<td>1 33 3 3</td>
</tr>
<tr>
<td>79</td>
<td>24</td>
<td>Air</td>
<td>2 36 4 6</td>
</tr>
<tr>
<td>59</td>
<td>18</td>
<td>Air</td>
<td>8 39 10 9</td>
</tr>
<tr>
<td>49</td>
<td>15</td>
<td>Air</td>
<td>14 42 16 12</td>
</tr>
<tr>
<td>39</td>
<td>12</td>
<td>Air</td>
<td>20 45 22 15</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>Air</td>
<td>31 48 33 18</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>Oxygen</td>
<td>32 48 34 18</td>
</tr>
<tr>
<td>20</td>
<td>6</td>
<td>Air</td>
<td>33 51 35 21</td>
</tr>
<tr>
<td>20</td>
<td>6</td>
<td>Oxygen</td>
<td>34 51 36 21</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>Air</td>
<td>35 54 37 24</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>Oxygen</td>
<td>36 54 38 24</td>
</tr>
<tr>
<td>10-0</td>
<td>3-0</td>
<td>Oxygen</td>
<td>36 55 38 25</td>
</tr>
</tbody>
</table>

2. Descent rate—assumed to be 10 m/min.

3. Ascent rate—3 minutes between stops.

4. Time at 98 ft (30 m) does not include the compression time.

*Wünsch, Hartmann, and Fust (1964).

**Total elapsed time depends upon time spent at maximum pressure.

---

DESCE N T R A T E 10 m/ M I N (33 F T/ M I N )

AS C E N T R A T E 3 M I NUT ES B E TWEEN S T OP S

BOTTOM TIME

TOTAL ASCENT TIME = 90 MIN -- 36 HOURS 55 MINUTES

180 MIN -- 38 HOURS 25 MINUTES

0 20 40 60 80 100
DE PHT  IN  F EET

3 90:180 3 60 3 6h 3 6h 3 6h 11h 1h 3 1h 3 1h 1h 1
TIME IN MINUTES EXCEPT WHERE NOTED

AIR
OXYGEN
REFERENCES


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Pol, B., and T. J. J. Watelle. 1854. Mémoire sur les effets de la compression 
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