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13 ABSTRACT

The use of elevated oxygen pressures in diving, treatment of decompression sickness, and hyperbaric oxygen therapy exposes the subject to the risk of oxygen toxicity of the lungs. At present no adequate guidelines exist to assist the physician in planning an oxygen exposure which will be safe from this hazard. An extensive multi-year research series recently completed by the University of Pennsylvania, Institute for Environmental Medicine has allowed the development of a method of calculating an estimated rate of onset and severity of pulmonary oxygen toxicity in man for any oxygen exposure.

This report explains that method and provides tables that may be used to rapidly estimate the severity of pulmonary toxicity which may be incurred by any oxygen exposure.

Recommendations as to safe limits of oxygen exposures for various procedures are included.

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USE OF THE UNIVERSITY OF PENNSYLVANIA, INSTITUTE FOR ENVIRONMENTAL MEDICINE PROCEDURE FOR CALCULATION OF CUMULATIVE PULMONARY OXYGEN TOXICITY

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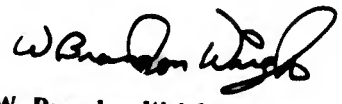

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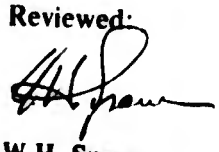

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ABSTRACT

The use of elevated oxygen pressures in diving, treatment of decompression sickness, and hyperbaric oxygen therapy exposes the subject to the risk of oxygen toxicity of the lungs. At present no adequate guidelines exist to assist the physician in planning an oxygen exposure which will be safe from this hazard. An extensive multi-year research series recently completed by the University of Pennsylvania, Institute for Environmental Medicine has allowed the development of a method of calculating an estimated rate of onset and severity of pulmonary oxygen toxicity in man for any oxygen exposure.

This report explains that method and provides tables that may be used to rapidly estimate the severity of pulmonary toxicity which may be incurred by any oxygen exposure.

Recommendations as to safe limits of oxygen exposures for various procedures are included.

ACKNOWLEDGMENT

The investigative results, concepts and procedures which this report describes were obtained from the Institute for Environmental Medicine of the University of Pennsylvania. The specific sources are cited as references.

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7. Alveolar-Arterial O_2 Differences in Man at 0.2, 1.0, 2.0 and 3.5 Ata Inspired PO_2. Clark, J. M. Lambertsen, C. J. J. Appl. Physiol. 30:753-763, 1971.

This summary report has been prepared to aid the long-standing, collaborative efforts of the Navy and the University in dissemination of concepts and information concerned with undersea physiology and medicine.

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I. INTRODUCTION

The use of elevated pressures of oxygen in the breathing media during diving and treatment of decompression sickness exposes the diver to the danger of oxygen toxicity. Central nervous system toxicity is avoided by adhering to the defined limits of pressure and time of exposure for each inert gas mixture and underwater breathing apparatus. As the duration of exposures to lower pressures of oxygen increase, the possibility of pulmonary oxygen toxicity becomes significant. No guidelines currently exist as to what sorts of exposures to elevated oxygen pressures are damaging to the lungs. This report was prepared to suggest such guidelines to the Navy diving community.

It would be relatively easy to establish a table which stated the number of minutes exposure to oxygen at a given partial pressure that are considered safe. However, most diving and oxygen therapy includes exposures to oxygen at several different partial pressures during the course of the procedure. This report describes a method for calculating the cumulative pulmonary toxicity which may be expected following exposure to oxygen at a variety of pressures.

II. CALCULATION OF CUMULATIVE OXYGEN DOSE

Pulmonary toxicity can develop during extended exposures to moderately elevated pressures of inspired oxygen. In routine non-saturation dives using air or mixed gas breathing media the length of exposure is insufficient to cause detectable toxicity. During saturation diving, saturation decompression, and hyperbaric oxygen treatment procedures, exposures are such that pulmonary oxygen toxicity is a distinct possibility. Standard U.S. Navy practice during saturation diving is to maintain a PO_2 between 0.30 and 0.35 atmospheres absolute (Ata). This report offers no evidence that that level of oxygen will lead to pulmonary oxygen toxicity and does not propose any change in oxygen levels in saturation dives conducted in accordance with provisions of appendix G of the U.S. Navy Diving Manual (NAVSHIPS 0994–001–9010).

The severity of lung changes caused by hyperoxia depends on the dose of oxygen given. The dose of oxygen can be described in terms of two parameters. These are the partial pressure of oxygen breathed and the duration of the oxygen breathing. A brief exposure to higher pressures of oxygen can have the same effect on pulmonary function as a longer exposure to lower pressure oxygen. Figure 1 presents a curve which relates inspired oxygen partial pressure to the duration of oxygen breathing required to produce a given effect on

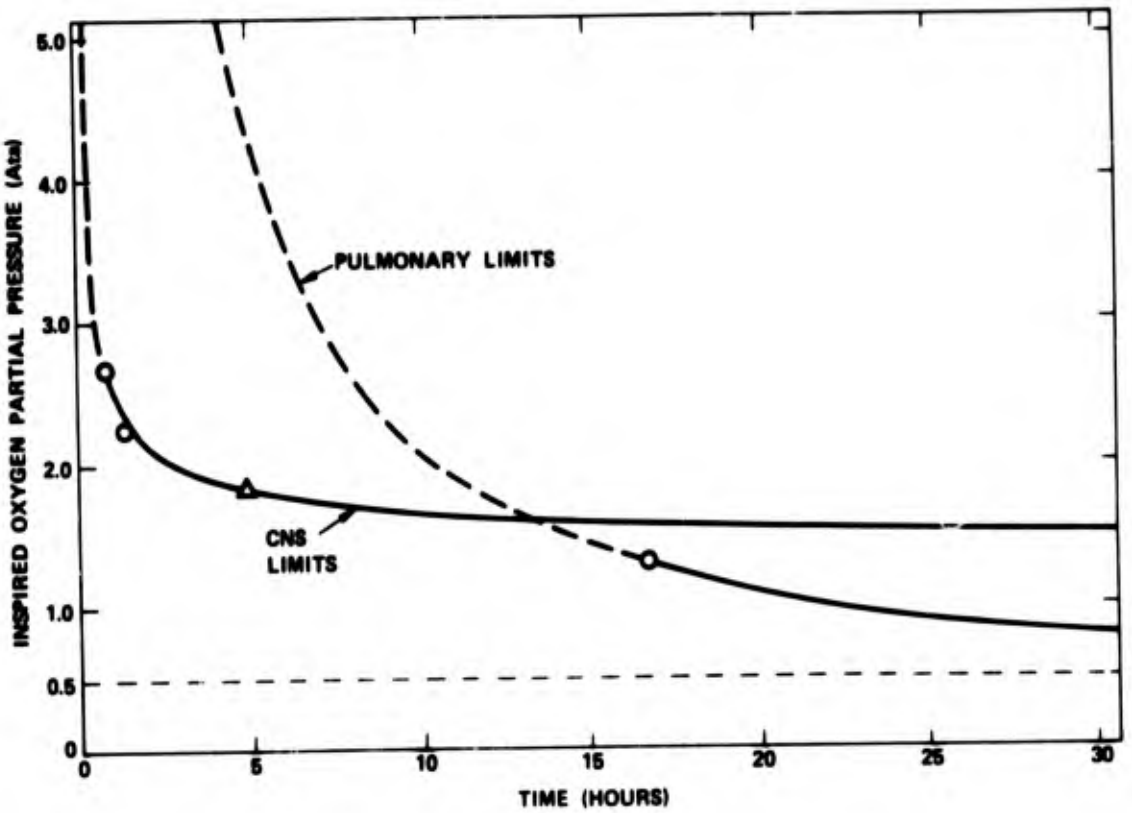

Figure 1. Predicted human pulmonary and CNS tolerance to high oxygen pressures.

the lungs. In this case a 10% decrease in vital capacity is the functional change graphed. Other changes in lung function would be described by similar curves.[1] Vital capacity was the function used to develop this procedure because a decrease in vital capacity was found empirically to be one of the best indexes of pulmonary oxygen toxicity in man. Vital capacity can be rapidly and accurately measured, is repeatedly reproducible, and reflects the onset, degree and rate of development of pulmonary involvement. Similar curves exist which describe other degrees of lung toxicity as demonstrated in Figure 2.[3,5,6]

One can estimate the degree of lung toxicity which may be expected from a given exposure by using such curves. However, use of this graph in estimating the cumulative damage that may be incurred by an uninterrupted exposure to oxygen of several different partial pressures becomes complex. For example, if a subject were exposed to 3 Ata oxygen pressure for five hours and then to oxygen at 2 Ata for five more hours he would incur a greater pulmonary detriment than a subject who breathed oxygen continuously at 2 Ata for ten hours. In this approach we are making the important assumption that pulmonary oxygen damage produced at one pressure is additive to toxicity incurred at other pressures. Notice in Figure 2 that our subject after five hours at 3 Ata has developed a 7% decrease in his vital capacity. When the partical pressure of oxygen (PO_2) is then reduced to 2 Ata the subject still has a 7% decrement. There is no recovery during this reduction in oxygen pressure. Thus the 5 hours of 3 Ata are equivalent to 7 or 8 hours exposure at 2 Ata. The

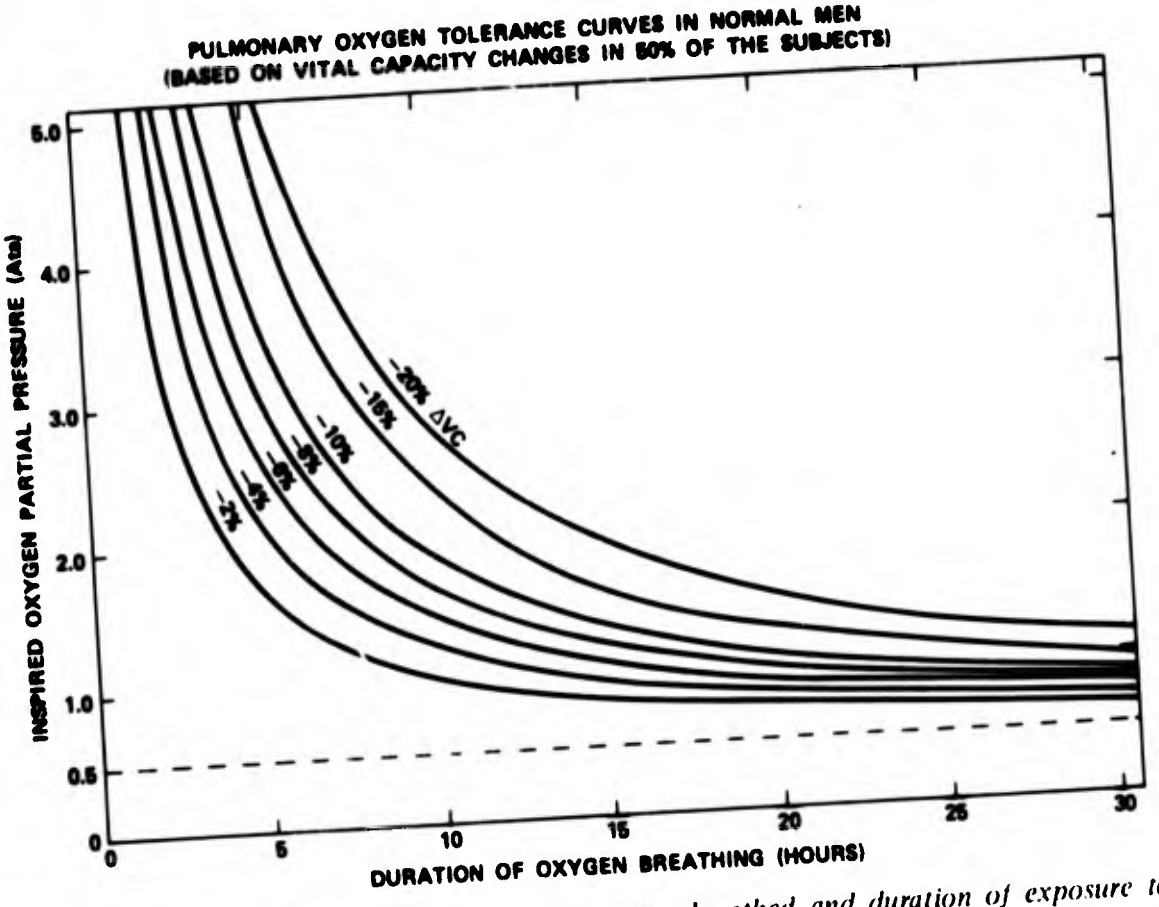

Figure 2. Relation of partial pressure of oxygen breathed and duration of exposure to degree of pulmonary oxygen damage.

subject's position on the graph moves down along the 7% decrement curve as the pressure is reduced to 2 Ata. The subsequent 5 hours at 2 Ata is measured from this 7% decrement point to give a total expected vital capacity decrement of 17%. In summary, the point describing an individual exposure moves along a horizontal line as duration of exposure continues at a constant PO_2. The point moves up or down along the O_2 toxicity curves as PO_2 changes, the point is not displaced along a simple vertical line when oxygen partial pressure is changed.

This example is portrayed graphically in Figure 3. The subject begins at 0 time at point A and moves to point B during the first five hours. The PO_2 is then reduced to 2 Ata moving the subject to point C and the subsequent 5 hours exposure bring him to point D.

It can be readily appreciated that this graphic type of analysis would be difficult for any exposure that required a variety of PO_2 levels. Therefore, we use a mathematical analysis to estimate the degree of lung toxicity from an exposure to varying oxygen pressures.

It has been shown that a logarithmic transformation of these curves is linear as demonstrated in Figure 4.[2] The sample exposure has been superimposed on the log-log plot. When plotted in this manner each of the subject's excursions follows a simple linear path.

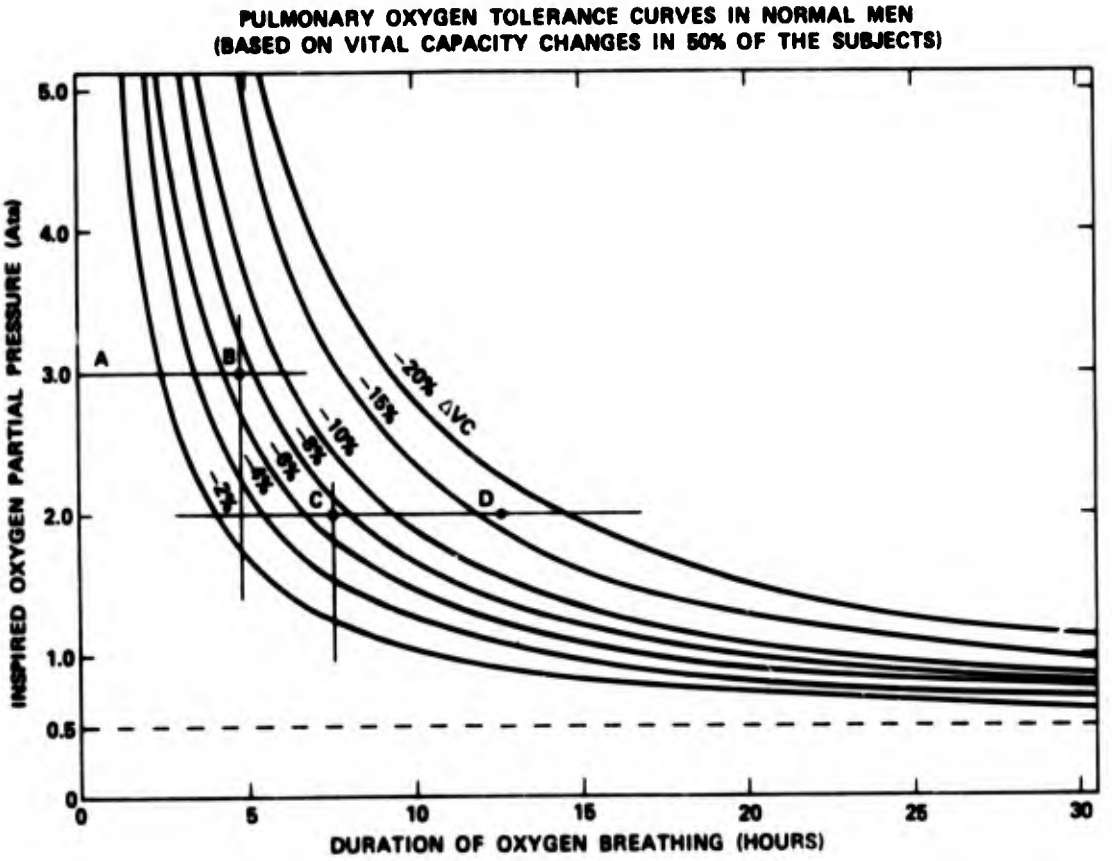

Figure 3. Use of the pulmonary oxygen tolerance curves to determine graphically the cumulative pulmonary oxygen toxicity of an exposure to an oxygen pressure of 3 Ata for five hours followed by exposure to a pressure of 2 Ata for five hours.

At this point it is useful to introduce the concept of the "unit pulmonary toxic dose" or UPTD. One UPTD is defined as the degree of pulmonary toxicity incurred by breathing 100% oxygen at a partial pressure of 1 Ata for one minute. It is assumed that this same toxicity can be achieved by exposures to various other combinations of PO_2 and duration of exposure. We have assumed that the lowest PO_2 which will produce any pulmonary toxicity within a finite period of time is 0.5 (Ata.) That is, the asymptote of O_2 pressure on time of O_2 breathing is 0.5 Ata.

The lower level of inspired oxygen pressure which will cause progressive lung toxicity or the maximum PO_2 which will cause no toxicity for very long exposures is not known with certainty. Normal men have breathed oxygen at 0.5 Ata for several days without detectable pulmonary changes. The assumption that 0.5 Ata of inspired oxygen is a practical asymptote for the pulmonary toxicity curves implies that normal men can breath this level of oxygen indefinitely and incur no pulmonary toxicity. This has not yet been conclusively proved to be true. Therefore, this assumption can not be used as evidence to choose 0.5 Ata of oxygen as a safe pressure for very long exposures such as might be encountered in deep saturation diving. Thus, we will continue to recommend a PO_2 of 0.30 to 0.35 Ata for Navy

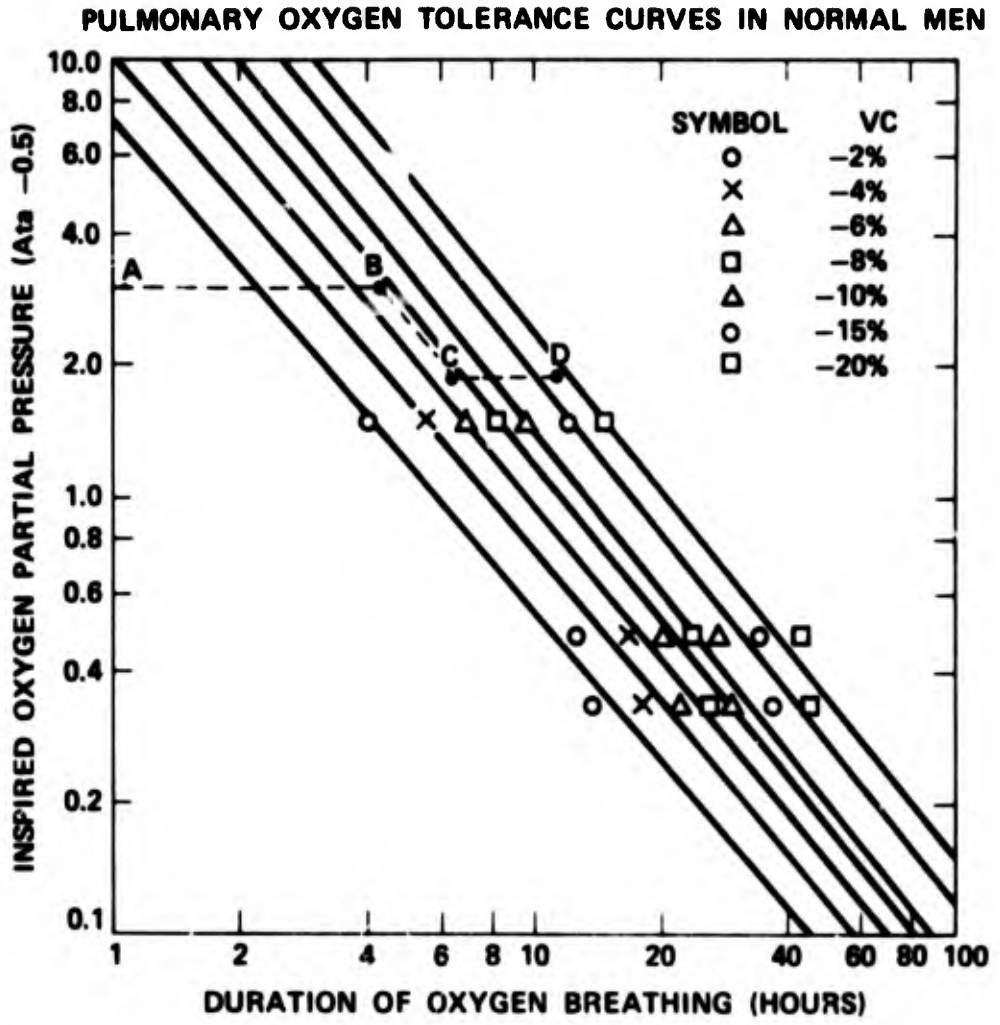

Figure 4. Use of a logarithmic plot of the pulmonary oxygen tolerance curves to determine graphically the cumulative pulmonary oxygen toxicity for the exposure graphed in Figure 3.

saturation dives. However, a PO_2 of 0.5 Ata should a reasonable asymptote for exposures of the durations encountered in hyperbaric therapy procedures. In this situation, all combinations of PO_2 and time which have a toxicity of 1 UPTD fall along the curve:

$$\log (P - 0.5\ \text{Ata}) = m \log t + \log b \qquad (1)$$

which may be rewritten as:

$$P - 0.5\ \text{Ata} = bt^m \qquad (2)$$

where:

P = inspired PO_2 in Ata
t = time in minutes
b = intercept constant for t = 1
m = slope constant

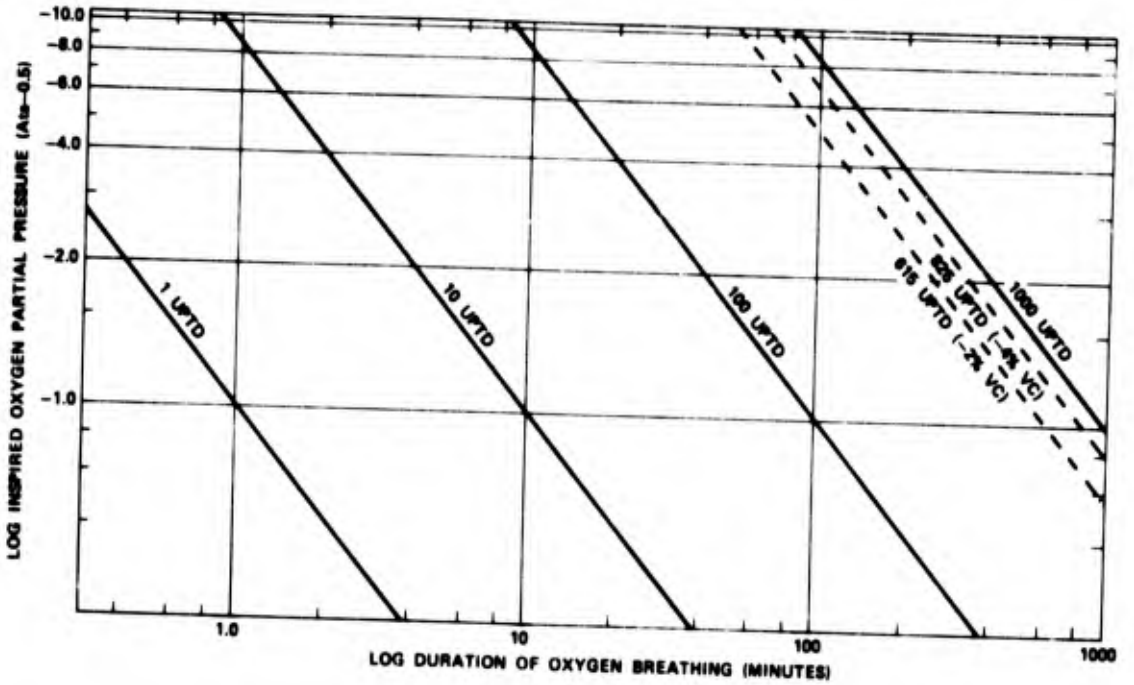

Figure 5. Curves of equal pulmonary toxic dose for varying oxygen exposures.

Breathing 1 Ata PO_2 for two minutes produces 2 UPTD. There is another curve in the form of (2) which includes all combinations of PO_2 and time which have a toxicity of 2 UPTD. This curve has the same slope "m" as the 1 UPTD curve but the intercept constant "b" is larger. This concept can be extended to any number of UPTD's as shown in Figure 5.

Since all points along a curve of the form (2) represent the same pulmonary toxic dose, the points on one curve are also assumed to represent an identical influence of oxygen upon pulmonary function. Thus the O_2 tolerance curves shown in Figure 2 can be expressed in terms of a certain number of UPTD's.

UPTD	Corresponding decrement in vital capacity
615	2%
825	4%
1035	6%
1230	8%
1425	10%
1815	15%
2190	20%

The lines of equal pulmonary toxicity are linear, parallel and have the same asymptotes of zero time and 0.5 Ata. Therefore, any exposure in terms of PO_2 and time can be expressed in UPTD units. It is assumed that these units may be added to describe a total exposure pattern. To convert an exposure of any $PO_2 = P_2$ and any time $= t_2$ to a dose of equal toxicity at some P_1 and t_1 we simply perform the division:

$$\frac{P_1 - 0.5 \text{ Ata}}{P_2 - 0.5 \text{ Ata}} = \frac{b_{t_1}{}^m}{b_{t_2}{}^m} \tag{3}$$

which can be solved for t_1 to give

$$t_1 = t_2 \sqrt[m]{\frac{P_1 - 0.5 \text{ Ata}}{P_2 - 0.5 \text{ Ata}}} \tag{4}$$

When t_2 is expressed in minutes, P_2 in Ata, and P_1 is set equal to 1 Ata; then t_1 will be the number of UPTD units incurred by exposure (P_2, t_2).

$$t_1 = t_2 \sqrt[m]{\frac{0.5 \text{ Ata}}{P_2 - 0.5 \text{ Ata}}} \tag{5}$$

On the basis of empirical evidence currently available the value of $m = -1.2$ has been selected as the pulmonary index of toxicity in man.[2] Therefore to calculate the pulmonary toxic dose of oxygen for any exposure to oxygen at $PO_2 = P_2$ and duration t_2 one needs only solve the equation

$$(\text{UPTD}) = t_2 \sqrt[-1.2]{\frac{0.5}{P_2 - 0.5}} = \frac{t_2}{1.2\sqrt{\frac{0.5}{P_2 - 0.5}}} \tag{6}$$

To calculate the total pulmonary toxic dose of any given exposure one finds the doses for every discrete PO_2 during the exposure and adds them.

III. PRACTICAL APPLICATIONS

The ability to predict the degree of pulmonary toxicity inherent in a given exposure is useful to those planning the special circumstances of dives or hyperbaric exposures which use elevated oxygen. One should, obviously, not plan a procedure or treatment which would produce severe damage to the lungs. A PO_2 of 0.5 atmospheres (380 mm Hg) or below does not appear to cause any lung damage even after long exposures. Therefore, a reasonable upper limit of PO_2 for long exposures would be at or below this pressure.

It is routine and reasonable in surface supplied helium-oxygen helmet diving and in treatment of decompression sickness to increase the speed and safety of decompression by using elevated oxygen pressures. One can sensibly accept minor degrees of pulmonary toxicity if they are completely reversible and asymptomatic. The degree of pulmonary toxicity equivalent to a two percent decrease in vital capacity is completely reversible, asymptomatic and even impossible to measure under ordinary circumstances. A UPTD of 615 will produce this degree of pulmonary toxicity. Therefore, a UPTD of 615 or less is a reasonable maximum limit of oxygen exposure for treatment of uncomplicated decompression sickness or other treatment procedures.

When elevated pressures of oxygen are used in the treatment of more serious diseases such as severe decompression sickness or gas gangrene, it may be reasonable to accept a greater degree of pulmonary toxicity in order to better treat the illness. The primary requirement of any therapy is that the treatment not be worse than the disease. Since high pressures of oxygen are so useful in treating serious decompression sickness it is reasonable to use a greater dose of this agent than would be sensible to hasten decompression. The degree of pulmonary oxygen toxicity which produces a ten percent decrease in vital capacity is associated with moderate symptoms of coughing and pain in the chest on deep inspiration. This degree of impairment of lung function has been shown experimentally to be reversible within a few days following cessation of exposure to elevated oxygen pressures. However, symptoms and signs of pulmonary toxicity can progress for a few hours following the termination of the elevated oxygen exposure. Greater oxygen exposures may not be reversible. Therefore, it is suggested that a 10% decrement in vital capacity or a UPTD of 1425 be chosen as the extreme limit for hyperbaric oxygen therapy procedures.

It is possible that oxygen exposures which produce reversible changes in pulmonary functional measurements may be associated with chronic histologic changes in the lungs. Whether this is true or not is unknown, but the possibility should council caution against the indiscriminate use of elevated PO_2.

IV. CONCLUSIONS AND RECOMMENDATIONS

In conclusion, it is recommended that the cumulative pulmonary toxic dose be calculated for every exposure of man to elevated pressures of respired oxygen. Oxygen exposures should be planned so as not to exceed the following limits:

a. During decompression and for treatment of mild decompression sickness, the total oxygen exposure should be limited to that which yields a UPTD of 615 or less.

b. In the use of oxygen for medical therapy or treatment of serious decompression sickness, which is responding poorly, an extreme limit of oxygen exposure which yields a UPTD of 1425 or less should be planned.

APPENDIX A
A Tabular Method for Calculating UPTD

In these tables the UPTD incurred by a variety of exposure times at different partial pressures of oxygen are recorded. The tables are given for oxygen exposures from 0.6 atmospheres to 5.0 atmospheres in increments of 0.1 Ata.

The 1.0 Ata table is not given because 1 minute equals 1 UPTD at that pressure. The columns marked "Time" and "UPTD" are given in the same units. If time is measured in minutes the UPTD is expressed in minutes. If time is measured in seconds or hours the UPTD is read in seconds or hours.

To use the Tables:

a. Convert the partial pressure of oxygen breathed at each depth to PO_2 in atmospheres.

b. Select the appropriate PO_2 table.

c. Enter the table in the "time" column at the time corresponding to the duration stop.

d. Read the corresponding UPTD.

e. Add the UPTD's for each depth together to get the total UPTD for the exposure.

If an exposure is longer than sixty minutes, one may convert the time of the stop to hours and minutes and enter the table twice, once for the number of hours to get UPTD in hours and once for the remaining time in minutes to get UPTD in minutes. When adding UPTD's together after such a use of the tables it is important to keep UPTD hours and UPTD minutes distinct. Due to rounding errors in the program which generated the tables conversions from hours to minutes and vice versa, may be inaccurate by small fractions of a minute.

It is also permissible to break a single exposure to the same PO_2 down into partial times small enough to be found in the tables and then add each of the corresponding UPTD's to find the total UPTD of the stop.

APPENDIX B
An Example of Use of the UPTD Tables

We wish to treat a patient for decompression sickness on U. S. Navy treatment Table 6. We would like to know how many times it is safe to repeat Table 6 without producing serious symptomatic pulmonary oxygen toxicity. Treatment Table 6 requires 60 minutes O_2 at 60', 15 minutes air at 60', 120 minutes O_2 at 30', 30 minutes air at 30 feet, a 30 minute continuous ascent from 60 feet to 30 feet on O_2 which we take to be equivalent to 30 minutes of O_2 at 45', and a 30 minute continuous ascent from 30' to 0' on O_2 which we take to be equivalent to 30 minutes of O_2 at 15 feet. These last two approximations are not strictly correct but are close enough for our purposes. We then construct the following table:

Time (minutes)		O_2 (%)	Depth (feet)	PO_2 (Ata)	UPTD (minutes)
60		100	60	2.8	214.02
15		21	60	.6	3.92
120	(60 + 60)	100	30	1.9	283.02
30		21	30	.4	0
30		100	45	2.4	91.26
30		100	15	1.5	53.45
				total UPTD	645.67 = 646

Therefore we have calculated that the cumulated toxicity to the lungs of the oxygen exposure on a treatment Table 6 is equivalent to breathing pure oxygen at sea level for 646 minutes or a UPTD of 646. If we select a UPTD of 1425 as the limit for therapeutic oxygen exposure we can see that two Table 6 treatments can be planned but not three. By similar calculations it can be shown that Table 5 produces a UPTD of 336, Table 5a produces a UPTD of 361 and Table 6a produces a UPTD of 693. Of course, if some time breathing air at sea level is inserted between oxygen treatments, we should expect some recovery of lung function. Therefore, the pulmonary toxicity would not be as severe as predicted by these tables. However, little is known about the rate of recovery from pulmonary oxygen toxicity in man. In order to maximize the safety in using these tables the procedure recommended assumes that no recovery occurs between oxygen exposures.

APPENDIX C
A Simplified Arithmetic Method for Calculating UPTD

It can be seen from the formula for calculating UPTD that at any constant PO_2 the UPTD is a linear function of the time of exposure to that PO_2. That is the formula:

$$UPTD = t \sqrt[-1.2]{\frac{0.5}{P - 0.5}} \tag{6}$$

reduces to:

$$UPTD = k_p \; t \tag{7}$$

when P is held constant.

At any PO_2, then, there exists a factor, k_p, which when multiplied by the time of exposure to that PO_2 yields the UPTD for that exposure.

$$k_p = \sqrt[-1.2]{\frac{0.5}{P - 0.5}}$$

Table C-1 is a list of these k_p factors for each 0.1 Ata PO_2 from 0.5 Ata to 5 Ata. To calculate the UPTD for a given exposure:

a. Convert the partial pressure of oxygen breathed at each depth to PO_2 in atmospheres.

b. Select the corresponding k_p from table C-1.

c. Multiply the time of exposure at that PO_2 by the corresponding k_p to get the UPTD for that depth.

d. Add the UPTD's for each PO_2 in the complete exposure together to get the total UPTD for the exposure.

Example:

If we wish to calculate the UPTD incurred by a treatment Table 6 we can construct the following table by a method similar to that described in Appendix B.

Time (t) (minutes)	(%)	Depth (feet)	PO_2 (Ata)	k_p (from table C – 1)	UPTD ($t \times k_p$)
60	100	60	2.8	3.57	214.20
15	21	60	.6	.26	3.90
120	100	30	1.9	2.36	283.20
30	21	30	.4	0	0
30	100	45	2.4	3.04	91.20
30	100	15	1.5	1.78	53.40
				Total UPTD	645.90 = 646

The difference in total UPTD as calculated by this method differs from that calculated with the tables by an insignificant amount due to minor rounding errors.

Table C-1

PO_2	k_p
.50	.00
.60	.26
.70	.47
.80	.65
.90	.83
1.00	1.00
1.10	1.16
1.20	1.32
1.30	1.48
1.40	1.63
1.50	1.78
1.60	1.93
1.70	2.07
1.80	2.22
1.90	2.36
2.00	2.50
2.10	2.64
2.20	2.77
2.30	2.91
2.40	3.04
2.50	3.17
2.60	3.31
2.70	3.44
2.80	3.57
2.90	3.70
3.00	3.82
3.10	3.95
3.20	4.08
3.30	4.20
3.40	4.33
3.50	4.45
3.60	4.57
3.70	4.70
3.80	4.82
3.90	4.94
4.00	5.06
4.10	5.18
4.20	5.30
4.30	5.42
4.40	5.54
4.50	5.66
4.60	5.77
4.70	5.89
4.80	6.01
4.90	6.12
5.00	6.24

APPENDIX D
The UPTD Tables

Table D-1

EXPOSURE pO2= 0.60

TIME	UPTD
1.00	.26
2.00	.52
3.00	.78
4.00	1.05
5.00	1.31
6.00	1.57
7.00	1.83
8.00	2.09
9.00	2.35
10.00	2.62
11.00	2.88
12.00	3.14
13.00	3.40
14.00	3.66
15.00	3.92
16.00	4.18
17.00	4.45
18.00	4.71
19.00	4.97
20.00	5.23
21.00	5.49
22.00	5.75
23.00	6.02
24.00	6.28
25.00	6.54
26.00	6.80
27.00	7.06
28.00	7.32
29.00	7.58
30.00	7.85
31.00	8.11
32.00	8.37
33.00	8.63
34.00	8.89
35.00	9.15
36.00	9.42
37.00	9.68
38.00	9.94
39.00	10.20
40.00	10.46
41.00	10.72
42.00	10.98
43.00	11.25
44.00	11.51
45.00	11.77
46.00	12.03
47.00	12.29
48.00	12.55
49.00	12.82
50.00	13.08
51.00	13.34
52.00	13.60
53.00	13.86
54.00	14.12
55.00	14.38
56.00	14.65
57.00	14.91
58.00	15.17
59.00	15.43
60.00	15.69

EXPOSURE pO2= 0.70

TIME	UPTD
1.00	.47
2.00	.93
3.00	1.40
4.00	1.86
5.00	2.33
6.00	2.80
7.00	3.26
8.00	3.73
9.00	4.19
10.00	4.66
11.00	5.13
12.00	5.59
13.00	6.06
14.00	6.52
15.00	6.99
16.00	7.46
17.00	7.92
18.00	8.39
19.00	8.85
20.00	9.32
21.00	9.79
22.00	10.25
23.00	10.72
24.00	11.18
25.00	11.65
26.00	12.12
27.00	12.58
28.00	13.05
29.00	13.51
30.00	13.98
31.00	14.45
32.00	14.91
33.00	15.38
34.00	15.84
35.00	16.31
36.00	16.78
37.00	17.24
38.00	17.71
39.00	18.17
40.00	18.64
41.00	19.11
42.00	19.57
43.00	20.04
44.00	20.50
45.00	20.97
46.00	21.44
47.00	21.90
48.00	22.37
49.00	22.83
50.00	23.30
51.00	23.77
52.00	24.23
53.00	24.70
54.00	25.16
55.00	25.63
56.00	26.10
57.00	26.56
58.00	27.03
59.00	27.49
60.00	27.96

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EXPOSURE pO2= 0.80

TIME	UPTD
1.00	.65
2.00	1.31
3.00	1.96
4.00	2.61
5.00	3.27
6.00	3.92
7.00	4.57
8.00	5.23
9.00	5.88
10.00	6.53
11.00	7.19
12.00	7.84
13.00	8.49
14.00	9.15
15.00	9.80
16.00	10.45
17.00	11.11
18.00	11.76
19.00	12.41
20.00	13.07
21.00	13.72
22.00	14.37
23.00	15.03
24.00	15.68
25.00	16.33
26.00	16.99
27.00	17.64
28.00	18.29
29.00	18.95
30.00	19.60
31.00	20.25
32.00	20.91
33.00	21.56
34.00	22.21
35.00	22.87
36.00	23.52
37.00	24.17
38.00	24.83
39.00	25.48
40.00	26.13
41.00	26.79
42.00	27.44
43.00	28.09
44.00	28.75
45.00	29.40
46.00	30.05
47.00	30.71
48.00	31.36
49.00	32.01
50.00	32.67
51.00	33.32
52.00	33.97
53.00	34.63
54.00	35.28
55.00	35.93
56.00	36.59
57.00	37.24
58.00	37.89
59.00	38.55
60.00	39.20

EXPOSURE pO2= 0.90

TIME	UPTD
1.00	.83
2.00	1.66
3.00	2.49
4.00	3.32
5.00	4.15
6.00	4.98
7.00	5.81
8.00	6.64
9.00	7.47
10.00	8.30
11.00	9.13
12.00	9.96
13.00	10.79
14.00	11.62
15.00	12.45
16.00	13.29
17.00	14.12
18.00	14.95
19.00	15.78
20.00	16.61
21.00	17.44
22.00	18.27
23.00	19.10
24.00	19.93
25.00	20.76
26.00	21.59
27.00	22.42
28.00	23.25
29.00	24.08
30.00	24.91
31.00	25.74
32.00	26.57
33.00	27.40
34.00	28.23
35.00	29.06
36.00	29.89
37.00	30.72
38.00	31.55
39.00	32.38
40.00	33.21
41.00	34.04
42.00	34.87
43.00	35.70
44.00	36.53
45.00	37.36
46.00	38.19
47.00	39.02
48.00	39.86
49.00	40.69
50.00	41.52
51.00	42.35
52.00	43.18
53.00	44.01
54.00	44.84
55.00	45.67
56.00	46.50
57.00	47.33
58.00	48.16
59.00	48.99
60.00	49.82

EXPOSURE pO2= 1.10	
TIME	UPTD
1.00	1.16
2.00	2.33
3.00	3.49
4.00	4.66
5.00	5.82
6.00	6.98
7.00	8.15
8.00	9.31
9.00	10.48
10.00	11.64
11.00	12.80
12.00	13.97
13.00	15.13
14.00	16.30
15.00	17.46
16.00	18.63
17.00	19.79
18.00	20.95
19.00	22.12
20.00	23.28
21.00	24.45
22.00	25.61
23.00	26.77
24.00	27.94
25.00	29.10
26.00	30.27
27.00	31.43
28.00	32.59
29.00	33.76
30.00	34.92
31.00	36.09
32.00	37.25
33.00	38.41
34.00	39.58
35.00	40.74
36.00	41.91
37.00	43.07
38.00	44.24
39.00	45.40
40.00	46.56
41.00	47.73
42.00	48.89
43.00	50.06
44.00	51.22
45.00	52.38
46.00	53.55
47.00	54.71
48.00	55.88
49.00	57.04
50.00	58.20
51.00	59.37
52.00	60.53
53.00	61.70
54.00	62.86
55.00	64.02
56.00	65.19
57.00	66.35
58.00	67.52
59.00	68.68
60.00	69.85

EXPOSURE pO2= 1.20	
TIME	UPTD
1.00	1.32
2.00	2.65
3.00	3.97
4.00	5.29
5.00	6.62
6.00	7.94
7.00	9.27
8.00	10.59
9.00	11.91
10.00	13.24
11.00	14.56
12.00	15.88
13.00	17.21
14.00	18.53
15.00	19.85
16.00	21.18
17.00	22.50
18.00	23.83
19.00	25.15
20.00	26.47
21.00	27.80
22.00	29.12
23.00	30.44
24.00	31.77
25.00	33.09
26.00	34.41
27.00	35.74
28.00	37.06
29.00	38.39
30.00	39.71
31.00	41.03
32.00	42.36
33.00	43.68
34.00	45.00
35.00	46.33
36.00	47.65
37.00	48.98
38.00	50.30
39.00	51.62
40.00	52.95
41.00	54.27
42.00	55.59
43.00	56.92
44.00	58.24
45.00	59.56
46.00	60.89
47.00	62.21
48.00	63.54
49.00	64.86
50.00	66.18
51.00	67.51
52.00	68.83
53.00	70.15
54.00	71.48
55.00	72.80
56.00	74.12
57.00	75.45
58.00	76.77
59.00	78.10
60.00	79.42

EXPOSURE pO2= 1.30

TIME	UPTD
1.00	1.48
2.00	2.96
3.00	4.44
4.00	5.92
5.00	7.40
6.00	8.88
7.00	10.36
8.00	11.84
9.00	13.32
10.00	14.79
11.00	16.27
12.00	17.75
13.00	19.23
14.00	20.71
15.00	22.19
16.00	23.67
17.00	25.15
18.00	26.63
19.00	28.11
20.00	29.59
21.00	31.07
22.00	32.55
23.00	34.03
24.00	35.51
25.00	36.99
26.00	38.47
27.00	39.95
28.00	41.42
29.00	42.90
30.00	44.38
31.00	45.86
32.00	47.34
33.00	48.82
34.00	50.30
35.00	51.78
36.00	53.26
37.00	54.74
38.00	56.22
39.00	57.70
40.00	59.18
41.00	60.66
42.00	62.14
43.00	63.62
44.00	65.10
45.00	66.58
46.00	68.05
47.00	69.53
48.00	71.01
49.00	72.49
50.00	73.97
51.00	75.45
52.00	76.93
53.00	78.41
54.00	79.89
55.00	81.37
56.00	82.85
57.00	84.33
58.00	85.81
59.00	87.29
60.00	88.77

EXPOSURE pO2= 1.40

TIME	UPTD
1.00	1.63
2.00	3.26
3.00	4.90
4.00	6.53
5.00	8.16
6.00	9.79
7.00	11.42
8.00	13.06
9.00	14.69
10.00	16.32
11.00	17.95
12.00	19.58
13.00	21.22
14.00	22.85
15.00	24.48
16.00	26.11
17.00	27.74
18.00	29.38
19.00	31.01
20.00	32.64
21.00	34.27
22.00	35.90
23.00	37.54
24.00	39.17
25.00	40.80
26.00	42.43
27.00	44.06
28.00	45.70
29.00	47.33
30.00	48.96
31.00	50.59
32.00	52.22
33.00	53.86
34.00	55.49
35.00	57.12
36.00	58.75
37.00	60.38
38.00	62.02
39.00	63.65
40.00	65.28
41.00	66.91
42.00	68.55
43.00	70.18
44.00	71.81
45.00	73.44
46.00	75.07
47.00	76.71
48.00	78.34
49.00	79.97
50.00	81.60
51.00	83.23
52.00	84.87
53.00	86.50
54.00	88.13
55.00	89.76
56.00	91.39
57.00	93.03
58.00	94.66
59.00	96.29
60.00	97.92

EXPOSURE pO2= 1.50

TIME	UPTD
1.00	1.78
2.00	3.56
3.00	5.35
4.00	7.13
5.00	8.91
6.00	10.69
7.00	12.47
8.00	14.25
9.00	16.04
10.00	17.82
11.00	19.60
12.00	21.38
13.00	23.16
14.00	24.95
15.00	26.73
16.00	28.51
17.00	30.29
18.00	32.07
19.00	33.85
20.00	35.64
21.00	37.42
22.00	39.20
23.00	40.98
24.00	42.76
25.00	44.54
26.00	46.33
27.00	48.11
28.00	49.89
29.00	51.67
30.00	53.45
31.00	55.24
32.00	57.02
33.00	58.80
34.00	60.58
35.00	62.36
36.00	64.14
37.00	65.93
38.00	67.71
39.00	69.49
40.00	71.27
41.00	73.05
42.00	74.84
43.00	76.62
44.00	78.40
45.00	80.18
46.00	81.96
47.00	83.74
48.00	85.53
49.00	87.31
50.00	89.09
51.00	90.87
52.00	92.65
53.00	94.44
54.00	96.22
55.00	98.00
56.00	99.78
57.00	101.56
58.00	103.34
59.00	105.13
60.00	106.91

EXPOSURE pO2= 1.60

TIME	UPTD
1.00	1.93
2.00	3.86
3.00	5.79
4.00	7.72
5.00	9.65
6.00	11.57
7.00	13.50
8.00	15.43
9.00	17.36
10.00	19.29
11.00	21.22
12.00	23.15
13.00	25.08
14.00	27.01
15.00	28.94
16.00	30.87
17.00	32.79
18.00	34.72
19.00	36.65
20.00	38.58
21.00	40.51
22.00	42.44
23.00	44.37
24.00	46.30
25.00	48.23
26.00	50.16
27.00	52.09
28.00	54.01
29.00	55.94
30.00	57.87
31.00	59.80
32.00	61.73
33.00	63.66
34.00	65.59
35.00	67.52
36.00	69.45
37.00	71.38
38.00	73.31
39.00	75.23
40.00	77.16
41.00	79.09
42.00	81.02
43.00	82.95
44.00	84.88
45.00	86.81
46.00	88.74
47.00	90.67
48.00	92.60
49.00	94.53
50.00	96.45
51.00	98.38
52.00	100.31
53.00	102.24
54.00	104.17
55.00	106.10
56.00	108.03
57.00	109.96
58.00	111.89
59.00	113.82
60.00	115.75

EXPOSURE pO2= 1.70

TIME	UPTD
1.00	2.07
2.00	4.15
3.00	6.22
4.00	8.30
5.00	10.37
6.00	12.44
7.00	14.52
8.00	16.59
9.00	18.67
10.00	20.74
11.00	22.82
12.00	24.89
13.00	26.96
14.00	29.04
15.00	31.11
16.00	33.19
17.00	35.26
18.00	37.33
19.00	39.41
20.00	41.48
21.00	43.56
22.00	45.63
23.00	47.71
24.00	49.78
25.00	51.85
26.00	53.93
27.00	56.00
28.00	58.08
29.00	60.15
30.00	62.22
31.00	64.30
32.00	66.37
33.00	68.45
34.00	70.52
35.00	72.60
36.00	74.67
37.00	76.74
38.00	78.82
39.00	80.89
40.00	82.97
41.00	85.04
42.00	87.11
43.00	89.19
44.00	91.26
45.00	93.34
46.00	95.41
47.00	97.49
48.00	99.56
49.00	101.63
50.00	103.71
51.00	105.78
52.00	107.86
53.00	109.93
54.00	112.00
55.00	114.08
56.00	116.15
57.00	118.23
58.00	120.30
59.00	122.38
60.00	124.45

EXPOSURE pO2= 1.80

TIME	UPTD
1.00	2.22
2.00	4.43
3.00	6.65
4.00	8.87
5.00	11.09
6.00	13.30
7.00	15.52
8.00	17.74
9.00	19.96
10.00	22.17
11.00	24.39
12.00	26.61
13.00	28.82
14.00	31.04
15.00	33.26
16.00	35.48
17.00	37.69
18.00	39.91
19.00	42.13
20.00	44.34
21.00	46.56
22.00	48.78
23.00	51.00
24.00	53.21
25.00	55.43
26.00	57.65
27.00	59.87
28.00	62.08
29.00	64.30
30.00	66.52
31.00	68.73
32.00	70.95
33.00	73.17
34.00	75.39
35.00	77.60
36.00	79.82
37.00	82.04
38.00	84.25
39.00	86.47
40.00	88.69
41.00	90.91
42.00	93.12
43.00	95.34
44.00	97.56
45.00	99.78
46.00	101.99
47.00	104.21
48.00	106.43
49.00	108.64
50.00	110.86
51.00	113.08
52.00	115.30
53.00	117.51
54.00	119.73
55.00	121.95
56.00	124.16
57.00	126.38
58.00	128.60
59.00	130.82
60.00	133.03

EXPOSURE pO2= 1.90	
TIME	UPTD
1.00	2.36
2.00	4.72
3.00	7.08
4.00	9.43
5.00	11.79
6.00	14.15
7.00	16.51
8.00	18.87
9.00	.00
10.00	23.58
11.00	25.94
12.00	28.30
13.00	30.66
14.00	33.02
15.00	35.38
16.00	37.74
17.00	40.09
18.00	42.45
19.00	44.81
20.00	47.17
21.00	49.53
22.00	51.89
23.00	54.24
24.00	56.60
25.00	58.96
26.00	61.32
27.00	63.68
28.00	66.04
29.00	68.40
30.00	70.75
31.00	73.11
32.00	75.47
33.00	77.83
34.00	80.19
35.00	82.55
36.00	84.91
37.00	87.26
38.00	89.62
39.00	91.98
40.00	94.34
41.00	96.70
42.00	99.06
43.00	101.41
44.00	103.77
45.00	106.13
46.00	108.49
47.00	110.85
48.00	113.21
49.00	115.57
50.00	117.92
51.00	120.28
52.00	122.64
53.00	125.00
54.00	127.36
55.00	129.72
56.00	132.07
57.00	134.43
58.00	136.79
59.00	139.15
60.00	141.51

EXPOSURE pO2= 2.00	
TIME	UPTD
1.00	2.50
2.00	5.00
3.00	7.49
4.00	9.99
5.00	12.49
6.00	14.99
7.00	17.49
8.00	19.98
9.00	22.48
10.00	24.98
11.00	27.48
12.00	29.98
13.00	32.47
14.00	34.97
15.00	37.47
16.00	39.97
17.00	42.47
18.00	44.96
19.00	47.46
20.00	49.96
21.00	52.46
22.00	54.96
23.00	57.46
24.00	59.95
25.00	62.45
26.00	64.95
27.00	67.45
28.00	69.95
29.00	72.44
30.00	74.94
31.00	77.44
32.00	79.94
33.00	82.44
34.00	84.93
35.00	87.43
36.00	89.93
37.00	92.43
38.00	94.93
39.00	97.42
40.00	99.92
41.00	102.42
42.00	104.92
43.00	107.42
44.00	109.91
45.00	112.41
46.00	114.91
47.00	117.41
48.00	119.91
49.00	122.40
50.00	124.90
51.00	127.40
52.00	129.90
53.00	132.40
54.00	134.89
55.00	137.39
56.00	139.89
57.00	142.39
58.00	144.89
59.00	147.38
60.00	149.88

EXPOSURE pO2= 2.10

TIME	UPTD
1.00	2.64
2.00	5.27
3.00	7.91
4.00	10.54
5.00	13.18
6.00	15.82
7.00	18.45
8.00	21.09
9.00	23.72
10.00	26.36
11.00	29.00
12.00	31.63
13.00	34.27
14.00	36.91
15.00	39.54
16.00	42.18
17.00	44.81
18.00	47.45
19.00	50.09
20.00	52.72
21.00	55.36
22.00	57.99
23.00	60.63
24.00	63.27
25.00	65.90
26.00	68.54
27.00	71.17
28.00	73.81
29.00	76.45
30.00	79.08
31.00	81.72
32.00	84.35
33.00	86.99
34.00	89.63
35.00	92.26
36.00	94.90
37.00	97.53
38.00	100.17
39.00	102.81
40.00	105.44
41.00	108.08
42.00	110.72
43.00	113.35
44.00	115.99
45.00	118.62
46.00	121.26
47.00	123.90
48.00	126.53
49.00	129.17
50.00	131.80
51.00	134.44
52.00	137.08
53.00	139.71
54.00	142.35
55.00	144.98
56.00	147.62
57.00	150.26
58.00	152.89
59.00	155.53
60.00	158.16

EXPOSURE pO2= 2.20

TIME	UPTD
1.00	2.77
2.00	5.55
3.00	8.32
4.00	11.09
5.00	13.86
6.00	16.64
7.00	19.41
8.00	22.18
9.00	24.95
10.00	27.73
11.00	30.50
12.00	33.27
13.00	36.04
14.00	38.82
15.00	41.59
16.00	44.36
17.00	47.14
18.00	49.91
19.00	52.68
20.00	55.45
21.00	58.23
22.00	61.00
23.00	63.77
24.00	66.54
25.00	69.32
26.00	72.09
27.00	74.86
28.00	77.63
29.00	80.41
30.00	83.18
31.00	85.95
32.00	88.73
33.00	91.50
34.00	94.27
35.00	97.04
36.00	99.82
37.00	102.59
38.00	105.36
39.00	108.13
40.00	110.91
41.00	113.68
42.00	116.45
43.00	119.23
44.00	122.00
45.00	124.77
46.00	127.54
47.00	130.32
48.00	133.09
49.00	135.86
50.00	138.63
51.00	141.41
52.00	144.18
53.00	146.95
54.00	149.72
55.00	152.50
56.00	155.27
57.00	158.04
58.00	160.82
59.00	163.59
60.00	166.36

EXPOSURE pO2= 2.30

TIME	UPTD
1.00	2.91
2.00	5.82
3.00	8.72
4.00	11.63
5.00	14.54
6.00	17.45
7.00	20.36
8.00	23.26
9.00	26.17
10.00	29.08
11.00	31.99
12.00	34.90
13.00	37.80
14.00	40.71
15.00	43.62
16.00	46.53
17.00	49.43
18.00	52.34
19.00	55.25
20.00	58.16
21.00	61.07
22.00	63.97
23.00	66.88
24.00	69.79
25.00	72.70
26.00	75.61
27.00	78.51
28.00	81.42
29.00	84.33
30.00	87.24
31.00	90.15
32.00	93.05
33.00	95.96
34.00	98.87
35.00	101.78
36.00	104.69
37.00	107.59
38.00	110.50
39.00	113.41
40.00	116.32
41.00	119.23
42.00	122.13
43.00	125.04
44.00	127.95
45.00	130.86
46.00	133.77
47.00	136.67
48.00	139.58
49.00	142.49
50.00	145.40
51.00	148.30
52.00	151.21
53.00	154.12
54.00	157.03
55.00	159.94
56.00	162.84
57.00	165.75
58.00	168.66
59.00	171.57
60.00	174.48

EXPOSURE pO2= 2.40

TIME	UPTD
1.00	3.04
2.00	6.08
3.00	9.13
4.00	12.17
5.00	15.21
6.00	18.25
7.00	21.29
8.00	24.34
9.00	27.38
10.00	30.42
11.00	33.46
12.00	36.50
13.00	39.55
14.00	42.59
15.00	45.63
16.00	48.67
17.00	51.71
18.00	54.76
19.00	57.80
20.00	60.84
21.00	63.88
22.00	66.92
23.00	69.96
24.00	73.01
25.00	76.05
26.00	79.09
27.00	82.13
28.00	85.17
29.00	88.22
30.00	91.26
31.00	94.30
32.00	97.34
33.00	100.38
34.00	103.43
35.00	106.47
36.00	109.51
37.00	112.55
38.00	115.59
39.00	118.64
40.00	121.68
41.00	124.72
42.00	127.76
43.00	130.80
44.00	133.85
45.00	136.89
46.00	139.93
47.00	142.97
48.00	146.01
49.00	149.06
50.00	152.10
51.00	155.14
52.00	158.18
53.00	161.22
54.00	164.27
55.00	167.31
56.00	170.35
57.00	173.39
58.00	176.43
59.00	179.48
60.00	182.52

EXPOSURE pO2= 2.50

TIME	UPTD
1.00	3.17
2.00	6.35
3.00	9.52
4.00	12.70
5.00	15.87
6.00	19.05
7.00	22.22
8.00	25.40
9.00	28.57
10.00	31.75
11.00	34.92
12.00	38.10
13.00	41.27
14.00	44.45
15.00	47.62
16.00	50.80
17.00	53.97
18.00	57.15
19.00	60.32
20.00	63.50
21.00	66.67
22.00	69.85
23.00	73.02
24.00	76.20
25.00	79.37
26.00	82.54
27.00	85.72
28.00	88.89
29.00	92.07
30.00	95.24
31.00	98.42
32.00	101.59
33.00	104.77
34.00	107.94
35.00	111.12
36.00	114.29
37.00	117.47
38.00	120.64
39.00	123.82
40.00	126.99
41.00	130.17
42.00	133.34
43.00	136.52
44.00	139.69
45.00	142.87
46.00	146.04
47.00	149.22
48.00	152.39
49.00	155.57
50.00	158.74
51.00	161.91
52.00	165.09
53.00	168.26
54.00	171.44
55.00	174.61
56.00	177.79
57.00	180.96
58.00	184.14
59.00	187.31
60.00	190.49

EXPOSURE pO2= 2.60

TIME	UPTD
1.00	3.31
2.00	6.61
3.00	9.92
4.00	13.23
5.00	16.53
6.00	19.84
7.00	23.15
8.00	26.45
9.00	29.76
10.00	33.07
11.00	36.37
12.00	39.68
13.00	42.99
14.00	46.29
15.00	49.60
16.00	52.90
17.00	56.21
18.00	59.52
19.00	62.82
20.00	66.13
21.00	69.44
22.00	72.74
23.00	76.05
24.00	79.36
25.00	82.66
26.00	85.97
27.00	89.28
28.00	92.58
29.00	95.89
30.00	99.20
31.00	102.50
32.00	105.81
33.00	109.12
34.00	112.42
35.00	115.73
36.00	119.04
37.00	122.34
38.00	125.65
39.00	128.96
40.00	132.26
41.00	135.57
42.00	138.87
43.00	142.18
44.00	145.49
45.00	148.79
46.00	152.10
47.00	155.41
48.00	158.71
49.00	162.02
50.00	165.33
51.00	168.63
52.00	171.94
53.00	175.25
54.00	178.55
55.00	181.86
56.00	185.17
57.00	188.47
58.00	191.78
59.00	195.09
60.00	198.39

EXPOSURE pO2= 2.70

TIME	UPTD
1.00	3.44
2.00	6.87
3.00	10.31
4.00	13.75
5.00	17.19
6.00	20.62
7.00	24.06
8.00	27.50
9.00	30.94
10.00	34.37
11.00	37.81
12.00	41.25
13.00	44.68
14.00	48.12
15.00	51.56
16.00	55.00
17.00	58.43
18.00	61.87
19.00	65.31
20.00	68.74
21.00	72.18
22.00	75.62
23.00	79.06
24.00	82.49
25.00	85.93
26.00	89.37
27.00	92.81
28.00	96.24
29.00	99.68
30.00	103.12
31.00	106.55
32.00	109.99
33.00	113.43
34.00	116.87
35.00	120.30
36.00	123.74
37.00	127.18
38.00	130.62
39.00	134.05
40.00	137.49
41.00	140.93
42.00	144.36
43.00	147.80
44.00	151.24
45.00	154.68
46.00	158.11
47.00	161.55
48.00	164.99
49.00	168.43
50.00	171.86
51.00	175.30
52.00	178.74
53.00	182.17
54.00	185.61
55.00	189.05
56.00	192.49
57.00	195.92
58.00	199.36
59.00	202.80
60.00	206.23

EXPOSURE pO2= 2.80

TIME	UPTD
1.00	3.57
2.00	7.13
3.00	10.70
4.00	14.27
5.00	17.83
6.00	21.40
7.00	24.97
8.00	28.54
9.00	32.10
10.00	35.67
11.00	39.24
12.00	42.80
13.00	46.37
14.00	49.94
15.00	53.50
16.00	57.07
17.00	60.64
18.00	64.21
19.00	67.77
20.00	71.34
21.00	74.91
22.00	78.47
23.00	82.04
24.00	85.61
25.00	89.17
26.00	92.74
27.00	96.31
28.00	99.87
29.00	103.44
30.00	107.01
31.00	110.58
32.00	114.14
33.00	117.71
34.00	121.28
35.00	124.84
36.00	128.41
37.00	131.98
38.00	135.54
39.00	139.11
40.00	142.68
41.00	146.25
42.00	149.81
43.00	153.38
44.00	156.95
45.00	160.51
46.00	164.08
47.00	167.65
48.00	171.21
49.00	174.78
50.00	178.35
51.00	181.91
52.00	185.48
53.00	189.05
54.00	192.62
55.00	196.18
56.00	199.75
57.00	203.32
58.00	206.88
59.00	210.45
60.00	214.02

EXPOSURE pO2= 2.90

TIME	UPTD
1.00	3.70
2.00	7.39
3.00	11.09
4.00	14.78
5.00	18.48
6.00	22.17
7.00	25.87
8.00	29.57
9.00	33.26
10.00	36.96
11.00	40.65
12.00	44.35
13.00	48.04
14.00	51.74
15.00	55.44
16.00	59.13
17.00	62.83
18.00	66.52
19.00	70.22
20.00	73.91
21.00	77.61
22.00	81.31
23.00	85.00
24.00	88.70
25.00	92.39
26.00	96.09
27.00	99.78
28.00	103.48
29.00	107.18
30.00	110.87
31.00	114.57
32.00	118.26
33.00	121.96
34.00	125.66
35.00	129.35
36.00	133.05
37.00	136.74
38.00	140.44
39.00	144.13
40.00	147.83
41.00	151.53
42.00	155.22
43.00	158.92
44.00	162.61
45.00	166.31
46.00	170.00
47.00	173.70
48.00	177.40
49.00	181.09
50.00	184.79
51.00	188.48
52.00	192.18
53.00	195.87
54.00	199.57
55.00	203.27
56.00	206.96
57.00	210.66
58.00	214.35
59.00	218.05
60.00	221.74

EXPOSURE pO2= 3.00

TIME	UPTD
1.00	3.82
2.00	7.65
3.00	11.47
4.00	15.29
5.00	19.12
6.00	22.94
7.00	26.77
8.00	30.59
9.00	34.41
10.00	38.24
11.00	42.06
12.00	45.88
13.00	49.71
14.00	53.53
15.00	57.35
16.00	61.18
17.00	65.00
18.00	68.83
19.00	72.65
20.00	76.47
21.00	80.30
22.00	84.12
23.00	87.94
24.00	91.77
25.00	95.59
26.00	99.41
27.00	103.24
28.00	107.06
29.00	110.89
30.00	114.71
31.00	118.53
32.00	122.36
33.00	126.18
34.00	130.00
35.00	133.83
36.00	137.65
37.00	141.47
38.00	145.30
39.00	149.12
40.00	152.94
41.00	156.77
42.00	160.59
43.00	164.42
44.00	168.24
45.00	172.06
46.00	175.89
47.00	179.71
48.00	183.53
49.00	187.36
50.00	191.18
51.00	195.00
52.00	198.83
53.00	202.65
54.00	206.48
55.00	210.30
56.00	214.12
57.00	217.95
58.00	221.77
59.00	225.59
60.00	229.42

EXPOSURE pO2= 3.10

TIME	UPTD
1.00	3.95
2.00	7.90
3.00	11.85
4.00	15.80
5.00	19.75
6.00	23.70
7.00	27.65
8.00	31.61
9.00	35.56
10.00	39.51
11.00	43.46
12.00	47.41
13.00	51.36
14.00	55.31
15.00	59.26
16.00	63.21
17.00	67.16
18.00	71.11
19.00	75.06
20.00	79.01
21.00	82.96
22.00	86.91
23.00	90.87
24.00	94.82
25.00	98.77
26.00	102.72
27.00	106.67
28.00	110.62
29.00	114.57
30.00	118.52
31.00	122.47
32.00	126.42
33.00	130.37
34.00	134.32
35.00	138.27
36.00	142.22
37.00	146.17
38.00	150.13
39.00	154.08
40.00	158.03
41.00	161.98
42.00	165.93
43.00	169.88
44.00	173.83
45.00	177.78
46.00	181.73
47.00	185.68
48.00	189.63
49.00	193.58
50.00	197.53
51.00	201.48
52.00	205.43
53.00	209.38
54.00	213.34
55.00	217.29
56.00	221.24
57.00	225.19
58.00	229.14
59.00	233.09
60.00	237.04

EXPOSURE pO2= 3.20

TIME	UPTD
1.00	4.08
2.00	8.15
3.00	12.23
4.00	16.31
5.00	20.38
6.00	24.46
7.00	28.54
8.00	32.62
9.00	36.69
10.00	40.77
11.00	44.85
12.00	48.92
13.00	53.00
14.00	57.08
15.00	61.15
16.00	65.23
17.00	69.31
18.00	73.38
19.00	77.46
20.00	81.54
21.00	85.61
22.00	89.69
23.00	93.77
24.00	97.85
25.00	101.92
26.00	106.00
27.00	110.08
28.00	114.15
29.00	118.23
30.00	122.31
31.00	126.38
32.00	130.46
33.00	134.54
34.00	138.61
35.00	142.69
36.00	146.77
37.00	150.84
38.00	154.92
39.00	159.00
40.00	163.08
41.00	167.15
42.00	171.23
43.00	175.31
44.00	179.38
45.00	183.46
46.00	187.54
47.00	191.61
48.00	195.69
49.00	199.77
50.00	203.84
51.00	207.92
52.00	212.00
53.00	216.07
54.00	220.15
55.00	224.23
56.00	228.31
57.00	232.38
58.00	236.46
59.00	240.54
60.00	244.61

EXPOSURE pO2= 3.30

TIME	UPTD
1.00	4.20
2.00	8.40
3.00	12.61
4.00	16.81
5.00	21.01
6.00	25.21
7.00	29.42
8.00	33.62
9.00	37.82
10.00	42.02
11.00	46.23
12.00	50.43
13.00	54.63
14.00	58.83
15.00	63.03
16.00	67.24
17.00	71.44
18.00	75.64
19.00	79.84
20.00	84.05
21.00	88.25
22.00	92.45
23.00	96.65
24.00	100.86
25.00	105.06
26.00	109.26
27.00	113.46
28.00	117.67
29.00	121.87
30.00	126.07
31.00	130.27
32.00	134.47
33.00	138.68
34.00	142.88
35.00	147.08
36.00	151.28
37.00	155.49
38.00	159.69
39.00	163.89
40.00	168.09
41.00	172.30
42.00	176.50
43.00	180.70
44.00	184.90
45.00	189.10
46.00	193.31
47.00	197.51
48.00	201.71
49.00	205.91
50.00	210.12
51.00	214.32
52.00	218.52
53.00	222.72
54.00	226.93
55.00	231.13
56.00	235.33
57.00	239.53
58.00	243.74
59.00	247.94
60.00	252.14

EXPOSURE pO2= 3.40

TIME	UPTD
1.00	4.33
2.00	8.65
3.00	12.98
4.00	17.31
5.00	21.64
6.00	25.96
7.00	30.29
8.00	34.62
9.00	38.94
10.00	43.27
11.00	47.60
12.00	51.92
13.00	56.25
14.00	60.58
15.00	64.91
16.00	69.23
17.00	73.56
18.00	77.89
19.00	82.21
20.00	86.54
21.00	90.87
22.00	95.19
23.00	99.52
24.00	103.85
25.00	108.18
26.00	112.50
27.00	116.83
28.00	121.16
29.00	125.48
30.00	129.81
31.00	134.14
32.00	138.46
33.00	142.79
34.00	147.12
35.00	151.45
36.00	155.77
37.00	160.10
38.00	164.43
39.00	168.75
40.00	173.08
41.00	177.41
42.00	181.74
43.00	186.06
44.00	190.39
45.00	194.72
46.00	199.04
47.00	203.37
48.00	207.70
49.00	212.02
50.00	216.35
51.00	220.68
52.00	225.01
53.00	229.33
54.00	233.66
55.00	237.99
56.00	242.31
57.00	246.64
58.00	250.97
59.00	255.29
60.00	259.62

EXPOSURE p02= 3.50	
TIME	UPTD
1.00	4.45
2.00	8.90
3.00	13.35
4.00	17.80
5.00	22.26
6.00	26.71
7.00	31.16
8.00	35.61
9.00	40.06
10.00	44.51
11.00	48.96
12.00	53.41
13.00	57.86
14.00	62.31
15.00	66.77
16.00	71.22
17.00	75.67
18.00	80.12
19.00	84.57
20.00	89.02
21.00	93.47
22.00	97.92
23.00	102.37
24.00	106.82
25.00	111.28
26.00	115.73
27.00	120.18
28.00	124.63
29.00	129.08
30.00	133.53
31.00	137.98
32.00	142.43
33.00	146.88
34.00	151.33
35.00	155.79
36.00	160.24
37.00	164.69
38.00	169.14
39.00	173.59
40.00	178.04
41.00	182.49
42.00	186.94
43.00	191.39
44.00	195.84
45.00	200.30
46.00	204.75
47.00	209.20
48.00	213.65
49.00	218.10
50.00	222.55
51.00	227.00
52.00	231.45
53.00	235.90
54.00	240.35
55.00	244.81
56.00	249.26
57.00	253.71
58.00	258.16
59.00	262.61
60.00	267.06

EXPOSURE p02= 3.60	
TIME	UPTD
1.00	4.57
2.00	9.15
3.00	13.72
4.00	18.30
5.00	22.87
6.00	27.45
7.00	32.02
8.00	36.59
9.00	41.17
10.00	45.74
11.00	50.32
12.00	54.89
13.00	59.47
14.00	64.04
15.00	68.61
16.00	73.19
17.00	77.76
18.00	82.34
19.00	86.91
20.00	91.49
21.00	96.06
22.00	100.64
23.00	105.21
24.00	109.78
25.00	114.36
26.00	118.93
27.00	123.51
28.00	128.08
29.00	132.66
30.00	137.23
31.00	141.80
32.00	146.38
33.00	150.95
34.00	155.53
35.00	160.10
36.00	164.68
37.00	169.25
38.00	173.82
39.00	178.40
40.00	182.97
41.00	187.55
42.00	192.12
43.00	196.70
44.00	201.27
45.00	205.84
46.00	210.42
47.00	214.99
48.00	219.57
49.00	224.14
50.00	228.72
51.00	233.29
52.00	237.86
53.00	242.44
54.00	247.01
55.00	251.59
56.00	256.16
57.00	260.74
58.00	265.31
59.00	269.88
60.00	274.46

EXPOSURE pO2= 3.70

TIME	UPTD
1.00	4.70
2.00	9.39
3.00	14.09
4.00	18.79
5.00	23.48
6.00	28.18
7.00	32.88
8.00	37.58
9.00	42.27
10.00	46.97
11.00	51.67
12.00	56.36
13.00	61.06
14.00	65.76
15.00	70.45
16.00	75.15
17.00	79.85
18.00	83.70
19.00	89.24
20.00	93.94
21.00	98.64
22.00	103.33
23.00	108.03
24.00	112.73
25.00	117.42
26.00	122.12
27.00	126.82
28.00	131.51
29.00	136.21
30.00	140.91
31.00	145.61
32.00	150.30
33.00	155.00
34.00	159.70
35.00	164.39
36.00	169.09
37.00	173.79
38.00	178.48
39.00	183.18
40.00	187.88
41.00	192.58
42.00	197.27
43.00	201.97
44.00	206.67
45.00	211.36
46.00	216.06
47.00	220.76
48.00	225.45
49.00	230.15
50.00	234.85
51.00	239.54
52.00	244.24
53.00	248.94
54.00	253.64
55.00	258.33
56.00	263.03
57.00	267.73
58.00	272.42
59.00	277.12
60.00	281.82

EXPOSURE pO2= 3.80

TIME	UPTD
1.00	4.82
2.00	9.64
3.00	14.46
4.00	19.28
5.00	24.09
6.00	28.91
7.00	33.73
8.00	38.55
9.00	43.37
10.00	48.19
11.00	53.01
12.00	57.83
13.00	62.65
14.00	67.47
15.00	72.28
16.00	77.10
17.00	81.92
18.00	86.74
19.00	91.56
20.00	96.38
21.00	101.20
22.00	106.02
23.00	110.84
24.00	115.66
25.00	120.47
26.00	125.29
27.00	130.11
28.00	134.93
29.00	139.75
30.00	144.57
31.00	149.39
32.00	154.21
33.00	159.03
34.00	163.84
35.00	168.66
36.00	173.48
37.00	178.30
38.00	183.12
39.00	187.94
40.00	192.76
41.00	197.58
42.00	202.40
43.00	207.22
44.00	212.03
45.00	216.85
46.00	221.67
47.00	226.49
48.00	231.31
49.00	236.13
50.00	240.95
51.00	245.77
52.00	250.59
53.00	255.40
54.00	260.22
55.00	265.04
56.00	269.86
57.00	274.68
58.00	279.50
59.00	284.32
60.00	289.14

EXPOSURE pO2= 3.90

TIME	UPTD
1.00	4.94
2.00	9.88
3.00	14.82
4.00	19.76
5.00	24.70
6.00	29.64
7.00	34.58
8.00	39.52
9.00	44.46
10.00	49.40
11.00	54.34
12.00	59.28
13.00	64.22
14.00	69.16
15.00	74.11
16.00	79.05
17.00	83.99
18.00	88.93
19.00	93.87
20.00	98.81
21.00	103.75
22.00	108.69
23.00	113.63
24.00	118.57
25.00	123.51
26.00	128.45
27.00	133.39
28.00	138.33
29.00	143.27
30.00	148.21
31.00	153.15
32.00	158.09
33.00	163.03
34.00	167.97
35.00	172.91
36.00	177.85
37.00	182.79
38.00	187.73
39.00	192.67
40.00	197.61
41.00	202.55
42.00	207.49
43.00	212.43
44.00	217.38
45.00	222.32
46.00	227.26
47.00	232.20
48.00	237.14
49.00	242.08
50.00	247.02
51.00	251.96
52.00	256.90
53.00	261.84
54.00	266.78
55.00	271.72
56.00	276.66
57.00	281.60
58.00	286.54
59.00	291.48
60.00	296.42

EXPOSURE pO2= 4.00

TIME	UPTD
1.00	5.06
2.00	10.12
3.00	15.18
4.00	20.24
5.00	25.31
6.00	30.37
7.00	35.43
8.00	40.49
9.00	45.55
10.00	50.61
11.00	55.67
12.00	60.73
13.00	65.79
14.00	70.86
15.00	75.92
16.00	80.98
17.00	86.04
18.00	91.10
19.00	96.16
20.00	101.22
21.00	106.28
22.00	111.35
23.00	116.41
24.00	121.47
25.00	126.53
26.00	131.59
27.00	136.65
28.00	141.71
29.00	146.77
30.00	151.83
31.00	156.90
32.00	161.96
33.00	167.02
34.00	172.08
35.00	177.14
36.00	182.20
37.00	187.26
38.00	192.32
39.00	197.38
40.00	202.45
41.00	207.51
42.00	212.57
43.00	217.63
44.00	222.69
45.00	227.75
46.00	232.81
47.00	237.87
48.00	242.93
49.00	248.00
50.00	253.06
51.00	258.12
52.00	263.18
53.00	268.24
54.00	273.30
55.00	278.36
56.00	283.42
57.00	288.48
58.00	293.55
59.00	298.61
60.00	303.67

EXPOSURE pO2= 4.10	
TIME	UPTD
1.00	5.18
2.00	10.36
3.00	15.54
4.00	20.73
5.00	25.91
6.00	31.09
7.00	36.27
8.00	41.45
9.00	46.63
10.00	51.81
11.00	56.99
12.00	62.18
13.00	67.36
14.00	72.54
15.00	77.72
16.00	82.90
17.00	88.08
18.00	93.26
19.00	98.45
20.00	103.63
21.00	108.81
22.00	113.99
23.00	119.17
24.00	124.35
25.00	129.53
26.00	134.72
27.00	139.90
28.00	145.08
29.00	150.26
30.00	155.44
31.00	160.62
32.00	165.80
33.00	170.98
34.00	176.17
35.00	181.35
36.00	186.53
37.00	191.71
38.00	196.89
39.00	202.07
40.00	207.25
41.00	212.44
42.00	217.62
43.00	222.80
44.00	227.98
45.00	233.16
46.00	238.34
47.00	243.52
48.00	248.71
49.00	253.89
50.00	259.07
51.00	264.25
52.00	269.43
53.00	274.61
54.00	279.79
55.00	284.97
56.00	290.16
57.00	295.34
58.00	300.52
59.00	305.70
60.00	310.88

EXPOSURE pO2= 4.20	
TIME	UPTD
1.00	5.30
2.00	10.60
3.00	15.90
4.00	21.20
5.00	26.51
6.00	31.81
7.00	37.11
8.00	42.41
9.00	47.71
10.00	53.01
11.00	58.31
12.00	63.61
13.00	68.91
14.00	74.21
15.00	79.52
16.00	84.82
17.00	90.12
18.00	95.42
19.00	100.72
20.00	106.02
21.00	111.32
22.00	116.62
23.00	121.92
24.00	127.22
25.00	132.53
26.00	137.83
27.00	143.13
28.00	148.43
29.00	153.73
30.00	159.03
31.00	164.33
32.00	169.63
33.00	174.93
34.00	180.23
35.00	185.54
36.00	190.84
37.00	196.14
38.00	201.44
39.00	206.74
40.00	212.04
41.00	217.34
42.00	222.64
43.00	227.94
44.00	233.25
45.00	238.55
46.00	243.85
47.00	249.15
48.00	254.45
49.00	259.75
50.00	265.05
51.00	270.35
52.00	275.65
53.00	280.95
54.00	286.26
55.00	291.56
56.00	296.86
57.00	302.16
58.00	307.46
59.00	312.76
60.00	318.06

EXPOSURE pO2= 4.30

TIME	UPTD
1.00	5.42
2.00	10.84
3.00	16.26
4.00	21.68
5.00	27.10
6.00	32.52
7.00	37.94
8.00	43.36
9.00	48.78
10.00	54.20
11.00	59.62
12.00	65.04
13.00	70.46
14.00	75.88
15.00	81.30
16.00	86.72
17.00	92.14
18.00	97.56
19.00	102.98
20.00	108.40
21.00	113.82
22.00	119.24
23.00	124.66
24.00	130.08
25.00	135.50
26.00	140.92
27.00	146.34
28.00	151.76
29.00	157.18
30.00	162.60
31.00	168.02
32.00	173.44
33.00	178.86
34.00	184.29
35.00	189.71
36.00	195.13
37.00	200.55
38.00	205.97
39.00	211.39
40.00	216.81
41.00	222.23
42.00	227.65
43.00	233.07
44.00	238.49
45.00	243.91
46.00	249.33
47.00	254.75
48.00	260.17
49.00	265.59
50.00	271.01
51.00	276.43
52.00	281.85
53.00	287.27
54.00	292.69
55.00	298.11
56.00	303.53
57.00	308.95
58.00	314.37
59.00	319.79
60.00	325.21

EXPOSURE pO2= 4.40

TIME	UPTD
1.00	5.54
2.00	11.08
3.00	16.62
4.00	22.16
5.00	27.69
6.00	33.23
7.00	38.77
8.00	44.31
9.00	49.85
10.00	55.39
11.00	60.93
12.00	66.47
13.00	72.00
14.00	77.54
15.00	83.08
16.00	88.62
17.00	94.16
18.00	99.70
19.00	105.24
20.00	110.78
21.00	116.31
22.00	121.85
23.00	127.39
24.00	132.93
25.00	138.47
26.00	144.01
27.00	149.55
28.00	155.09
29.00	160.62
30.00	166.16
31.00	171.70
32.00	177.24
33.00	182.78
34.00	188.32
35.00	193.86
36.00	199.40
37.00	204.93
38.00	210.47
39.00	216.01
40.00	221.55
41.00	227.09
42.00	232.63
43.00	238.17
44.00	243.71
45.00	249.24
46.00	254.78
47.00	260.32
48.00	265.86
49.00	271.40
50.00	276.94
51.00	282.48
52.00	288.02
53.00	293.55
54.00	299.09
55.00	304.63
56.00	310.17
57.00	315.71
58.00	321.25
59.00	326.79
60.00	332.33

EXPOSURE pO2= 4.50	
TIME	UPTD
1.00	5.66
2.00	11.31
3.00	16.97
4.00	22.63
5.00	28.28
6.00	33.94
7.00	39.60
8.00	45.25
9.00	50.91
10.00	56.57
11.00	62.23
12.00	67.88
13.00	73.54
14.00	79.20
15.00	84.85
16.00	90.51
17.00	96.17
18.00	101.82
19.00	107.48
20.00	113.14
21.00	118.79
22.00	124.45
23.00	130.11
24.00	135.76
25.00	141.42
26.00	147.08
27.00	152.74
28.00	158.39
29.00	164.05
30.00	169.71
31.00	175.36
32.00	181.02
33.00	186.68
34.00	192.33
35.00	197.99
36.00	203.65
37.00	209.30
38.00	214.96
39.00	220.62
40.00	226.27
41.00	231.93
42.00	237.59
43.00	243.24
44.00	248.90
45.00	254.56
46.00	260.22
47.00	265.87
48.00	271.53
49.00	277.19
50.00	282.84
51.00	288.50
52.00	294.16
53.00	299.81
54.00	305.47
55.00	311.13
56.00	316.78
57.00	322.44
58.00	328.10
59.00	333.75
60.00	339.41

EXPOSURE pO2= 4.60	
TIME	UPTD
1.00	5.77
2.00	11.55
3.00	17.32
4.00	23.10
5.00	28.87
6.00	34.65
7.00	40.42
8.00	46.20
9.00	51.97
10.00	57.74
11.00	63.52
12.00	69.29
13.00	75.07
14.00	80.84
15.00	86.62
16.00	92.39
17.00	98.17
18.00	103.94
19.00	109.71
20.00	115.49
21.00	121.26
22.00	127.04
23.00	132.81
24.00	138.59
25.00	144.36
26.00	150.14
27.00	155.91
28.00	161.68
29.00	167.46
30.00	173.23
31.00	179.01
32.00	184.78
33.00	190.56
34.00	196.33
35.00	202.11
36.00	207.88
37.00	213.66
38.00	219.43
39.00	225.20
40.00	230.98
41.00	236.75
42.00	242.53
43.00	248.30
44.00	254.08
45.00	259.85
46.00	265.63
47.00	271.40
48.00	277.17
49.00	282.95
50.00	288.72
51.00	294.50
52.00	300.27
53.00	306.05
54.00	311.82
55.00	317.60
56.00	323.37
57.00	329.14
58.00	334.92
59.00	340.69
60.00	346.47

EXPOSURE pO2= 4.70

TIME	UPTD
1.00	5.89
2.00	11.78
3.00	17.67
4.00	23.57
5.00	29.46
6.00	35.35
7.00	41.24
8.00	47.13
9.00	53.02
10.00	58.92
11.00	64.81
12.00	70.70
13.00	76.59
14.00	82.48
15.00	88.37
16.00	94.27
17.00	100.16
18.00	106.05
19.00	111.94
20.00	117.83
21.00	123.72
22.00	129.62
23.00	135.51
24.00	141.40
25.00	147.29
26.00	153.18
27.00	159.07
28.00	164.96
29.00	170.86
30.00	176.75
31.00	182.64
32.00	188.53
33.00	194.42
34.00	200.31
35.00	206.21
36.00	212.10
37.00	217.99
38.00	223.88
39.00	229.77
40.00	235.66
41.00	241.56
42.00	247.45
43.00	253.34
44.00	259.23
45.00	265.12
46.00	271.01
47.00	276.90
48.00	282.80
49.00	288.69
50.00	294.58
51.00	300.47
52.00	306.36
53.00	312.25
54.00	318.15
55.00	324.04
56.00	329.93
57.00	335.82
58.00	341.71
59.00	347.60
60.00	353.50

EXPOSURE pO2= 4.80

TIME	UPTD
1.00	6.01
2.00	12.02
3.00	18.02
4.00	24.03
5.00	30.04
6.00	36.05
7.00	42.06
8.00	48.07
9.00	54.07
10.00	60.08
11.00	66.09
12.00	72.10
13.00	78.11
14.00	84.12
15.00	90.12
16.00	96.13
17.00	102.14
18.00	108.15
19.00	114.16
20.00	120.17
21.00	126.17
22.00	132.18
23.00	138.19
24.00	144.20
25.00	150.21
26.00	156.21
27.00	162.22
28.00	168.23
29.00	174.24
30.00	180.25
31.00	186.26
32.00	192.26
33.00	198.27
34.00	204.28
35.00	210.29
36.00	216.30
37.00	222.31
38.00	228.31
39.00	234.32
40.00	240.33
41.00	246.34
42.00	252.35
43.00	258.36
44.00	264.36
45.00	270.37
46.00	276.38
47.00	282.39
48.00	288.40
49.00	294.40
50.00	300.41
51.00	306.42
52.00	312.43
53.00	318.44
54.00	324.45
55.00	330.45
56.00	336.46
57.00	342.47
58.00	348.48
59.00	354.49
60.00	360.50

EXPOSURE pO2= 4.90

TIME	UPTD
1.00	6.12
2.00	12.25
3.00	18.37
4.00	24.50
5.00	30.62
6.00	36.75
7.00	42.87
8.00	49.00
9.00	55.12
10.00	61.24
11.00	67.37
12.00	73.49
13.00	79.62
14.00	85.74
15.00	91.87
16.00	97.99
17.00	104.12
18.00	110.24
19.00	116.37
20.00	122.49
21.00	128.61
22.00	134.74
23.00	140.86
24.00	146.99
25.00	153.11
26.00	159.24
27.00	165.36
28.00	171.49
29.00	177.61
30.00	183.73
31.00	189.86
32.00	195.98
33.00	202.11
34.00	208.23
35.00	214.36
36.00	220.48
37.00	226.61
38.00	232.73
39.00	238.85
40.00	244.98
41.00	251.10
42.00	257.23
43.00	263.35
44.00	269.48
45.00	275.60
46.00	281.73
47.00	287.85
48.00	293.97
49.00	300.10
50.00	306.22
51.00	312.35
52.00	318.47
53.00	324.60
54.00	330.72
55.00	336.85
56.00	342.97
57.00	349.10
58.00	355.22
59.00	361.34
60.00	367.47

EXPOSURE pO2= 5.00

TIME	UPTD
1.00	6.24
2.00	12.48
3.00	18.72
4.00	24.96
5.00	31.20
6.00	37.44
7.00	43.68
8.00	49.92
9.00	56.16
10.00	62.40
11.00	68.64
12.00	74.88
13.00	81.12
14.00	87.36
15.00	93.60
16.00	99.84
17.00	106.08
18.00	112.32
19.00	118.56
20.00	124.81
21.00	131.05
22.00	137.29
23.00	143.53
24.00	149.77
25.00	156.01
26.00	162.25
27.00	168.49
28.00	174.73
29.00	180.97
30.00	187.21
31.00	193.45
32.00	199.69
33.00	205.93
34.00	212.17
35.00	218.41
36.00	224.65
37.00	230.89
38.00	237.13
39.00	243.37
40.00	249.61
41.00	255.85
42.00	262.09
43.00	268.33
44.00	274.57
45.00	280.81
46.00	287.05
47.00	293.29
48.00	299.53
49.00	305.77
50.00	312.01
51.00	318.25
52.00	324.49
53.00	330.73
54.00	336.97
55.00	343.21
56.00	349.45
57.00	355.69
58.00	361.93
59.00	368.17
60.00	374.42