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16882

1973

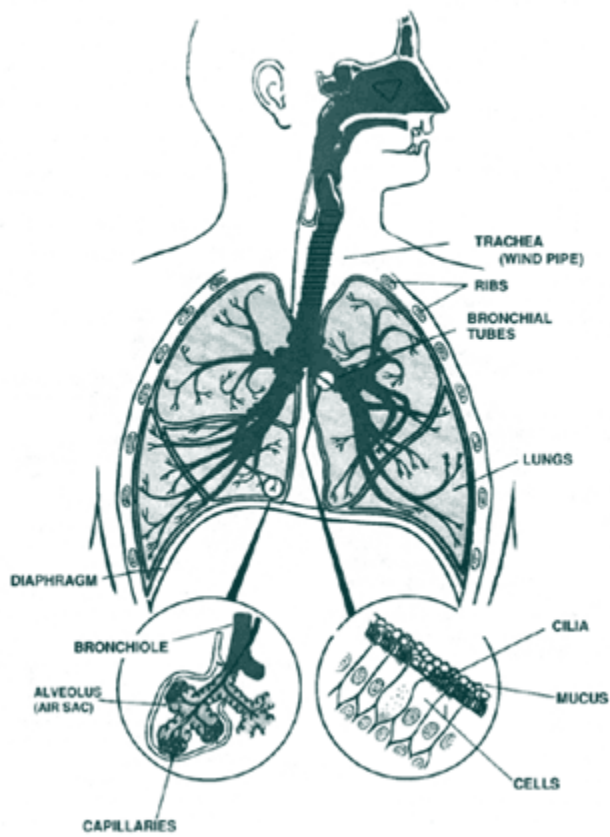
64 45

30

140

1

180



(1)
(2)

:

-1

-2

)

6.5

4.5

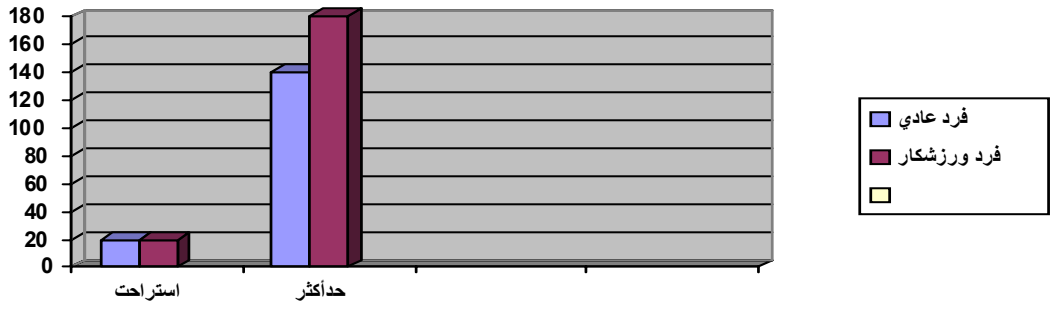
(

V_{CO_2} ()
VE

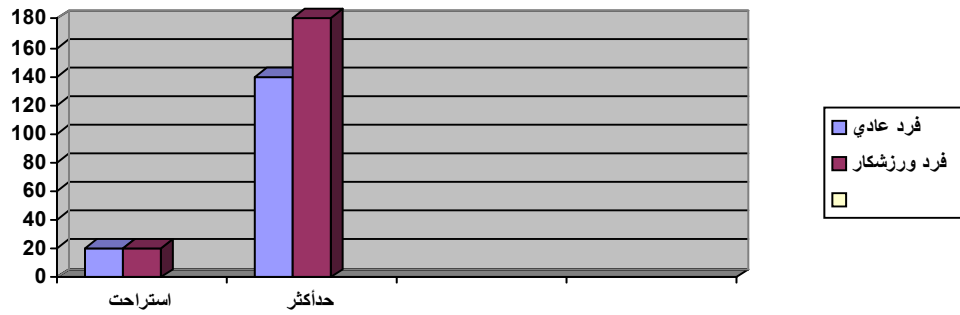
V_{O_2} ()
 V_{O_2} .

() VE

:



V_{O_2}



V_{CO_2}

130 180

30 25

:

:

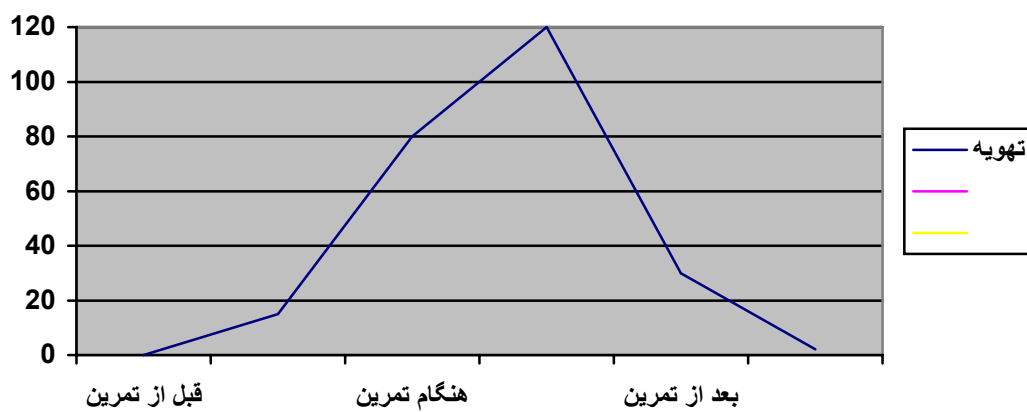
:

.1

.2

.1

.2



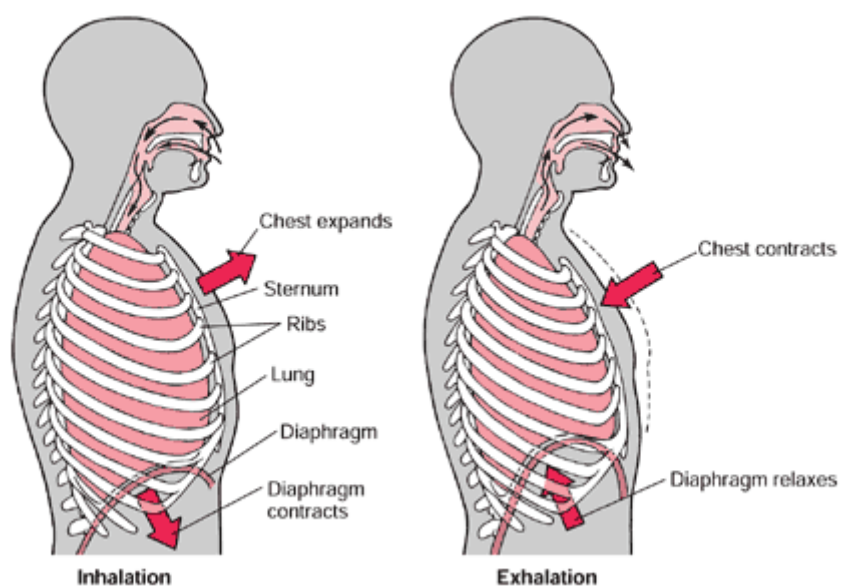
: 3

.1
.2
.3

	—	
		TV
		IRV
		ERV
		RV
		TLC
		VC
		IC
		FRC

-

3.4 1.4



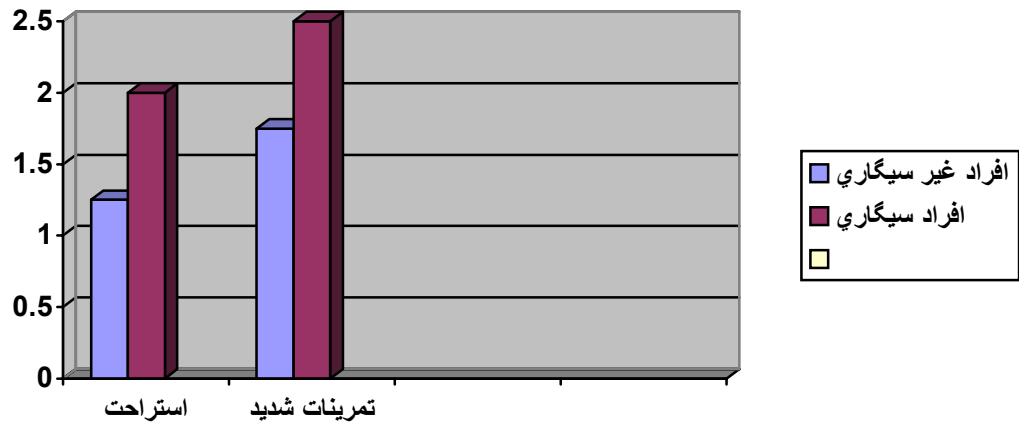
10 8

2 1

()

4

25

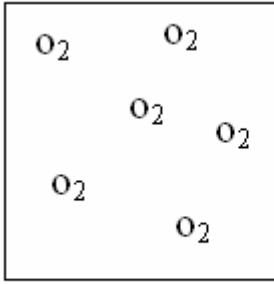


4

3

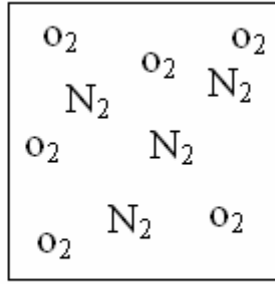
+100 -80

5



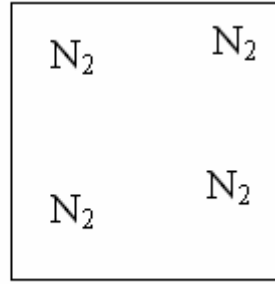
$$P_{O_2} = 760 \cdot 0.6$$

760



$$P = 760$$

Co₂



$$P_{N_2} = 760 \cdot 0.4$$

760

Po₂

80

20

760

:

$$760 \cdot 80 / 100 = 608$$

$$760 \cdot 20 / 100 = 152$$

716

100

40

0.75

-

:

.1

.2

.3

.4

:

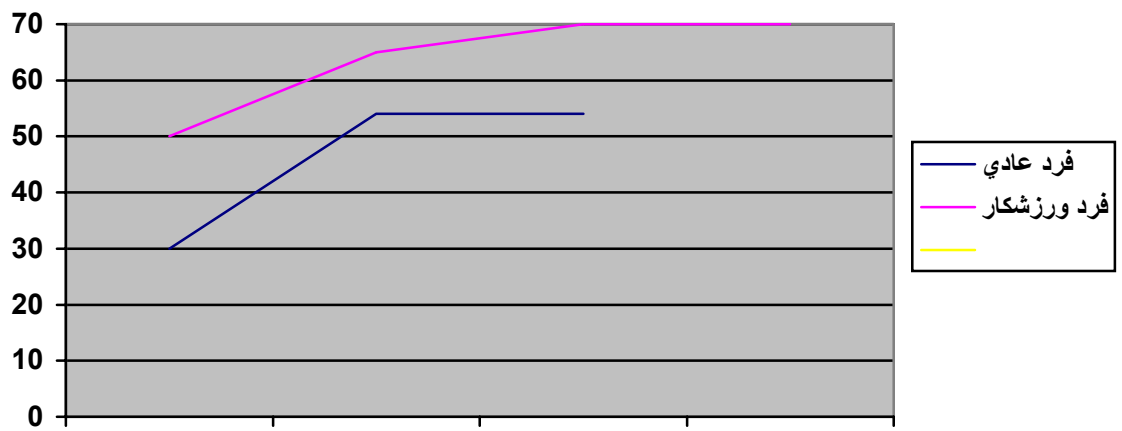
10

-

-

-

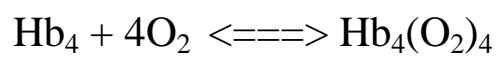
.

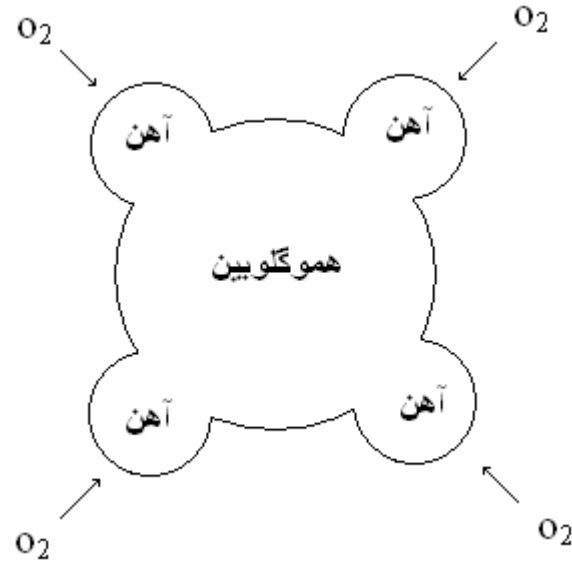


4 3

()

4





1.34

$$1.34) \quad 100 \quad) \quad (\quad 100 \quad) \quad .($$

$$= 15 * 1.34 = 20.1 \quad 100$$

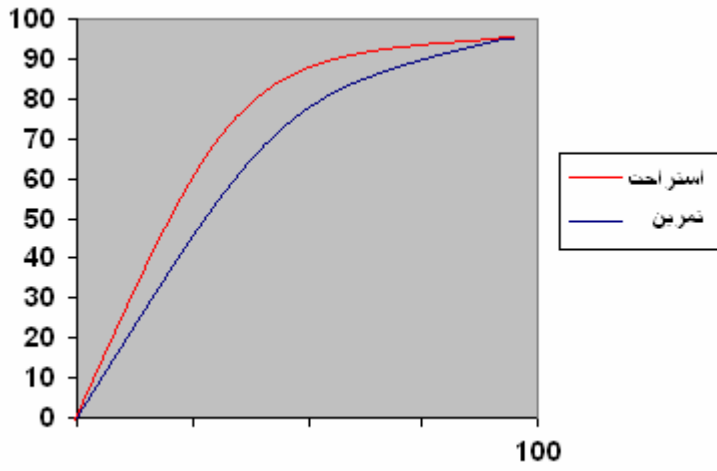
$$10 \quad 5$$

4 -

- .1
- .2
- PH .3
- Co₂ .4

% So₂

$$\% \text{ So}_2 = (\text{Hb O}_2 \quad) / (\text{Hb} \quad) * 100$$



100

40

100

100

100

40

97.5

19.5

15

PH

PH

PH

100

) . 19.5 - 11.6 = 7.9

3

-

(

100

3.5 3

-

:

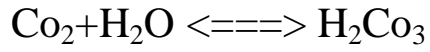
.1

.2

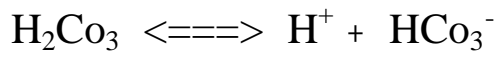
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-

:



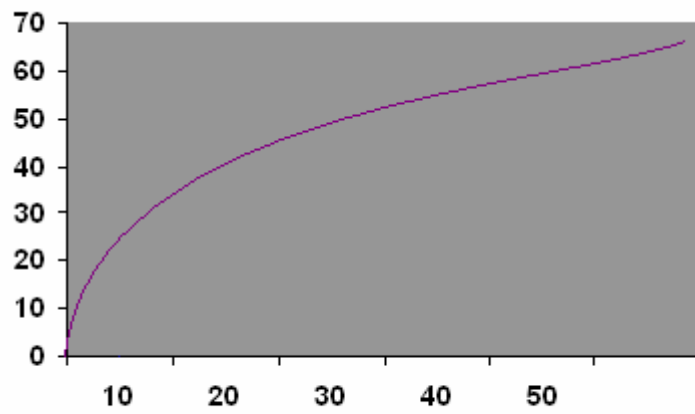
H⁺



-

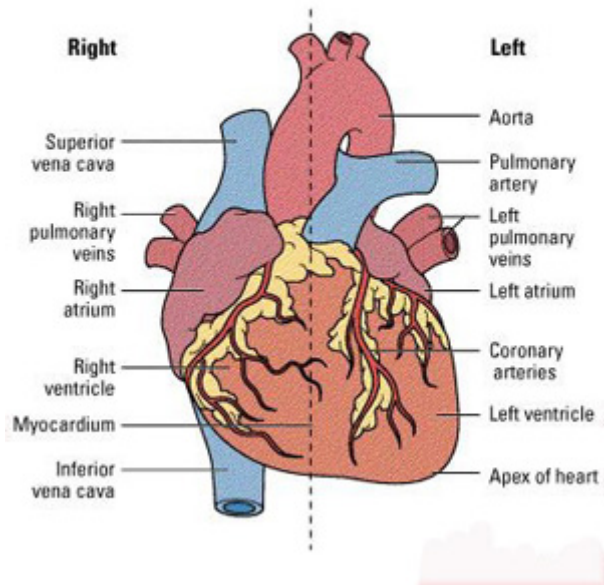
.

-



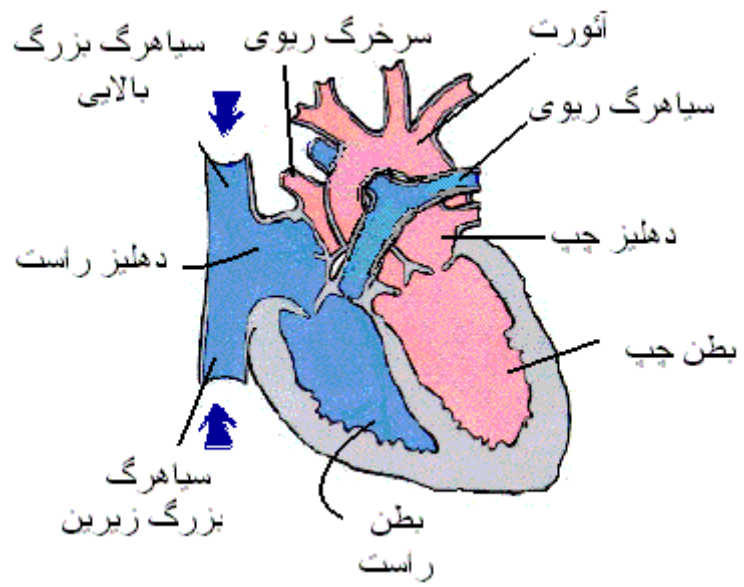
فئمار سھمي دي اكسند كرین

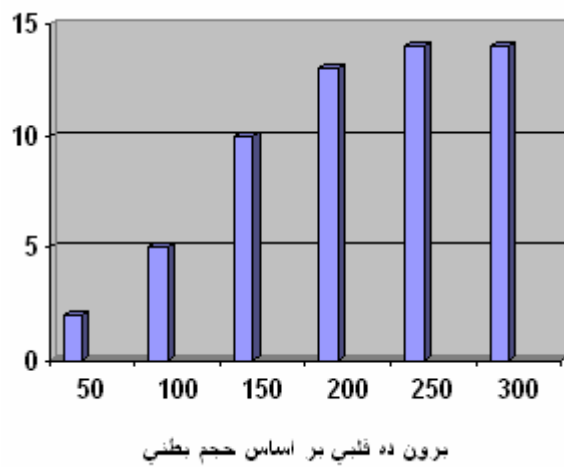
The Heart: Outside



4

4





.1

.2

72

()

5

: 3

: .1

: .2

: .3



: .1

: .2

: .3

= /

= /

2.5

1000

1/1000

1.5 ()

30

3 ()

0.3

8

3 1

PH
ATP

.1
.2
.3
.4

700	34	
200	4	

100	2	
1100	2	
1050	21	
300	6	
750	15	
250	5	
300	6	
50	1	
25	0/5	
175	3/5	

4 3

25 15

100

100

80 50

2 1

25 20

()

U

()

()

()

3

: 3 .

.1

.2

.3

80 20

20

6 5

35

25

$$= \frac{1}{(\quad - \quad)}$$

10 6

$$\frac{45}{1} \left(\frac{70}{5} \right) \frac{5}{2}$$

45 40

80 60

.1

.2

PH

.3

170 150
120 110

-1

—

.

-2

-3

-4

—

.