

平成15年度大学院医学研究科 (2回目)  
 外国語試験問題・解答用紙 (日本人)

受験番号

問1. 次の文章を読み、以下の設問に答えなさい。

The findings of the report give an intriguing – and alarming – insight (a) not just the current causes of disease and death and the factors underlying them, (b) also into human behaviour and how it may be changing around the world. Most of all they emphasize the global gap between (1) the haves and the have-nots by showing just how much of the world's burden is the result of undernutrition among the poor and of overnutrition among those who are better-off, wherever they live.

The contrast is shocking. According (c) the report, at the same time that there are 170 million children in poor countries who are underweight – and over three million of them die each year as a result – there are more than one billion adults worldwide who are overweight and at least 300 million who are clinically obese. Among these, about half a million people in North America and Western Europe die from obesity–(d) diseases every year.

So it is clear that at one end of the risk factor scale lies poverty, where underweight remains the leading cause of disease burden among hundreds of millions of the world's poorest people and a major cause of death, especially among young children. The report shows that, underweight remains a massive and pervasive problem in (2) developing countries, where (3) is a strong underlying (4) determinant.

All ages are (e) risk, but underweight is most prevalent among children under five years of age, and (5) WHO estimates that (6) approximately 27% of children in this age group are underweight. This caused an estimated 3.4 million deaths in 2000, including about 1.8 million in Africa and 1.2 million in countries in Asia. It was contributing factor in 60% of all child deaths in developing countries. In other words, the report says, deaths (f) underweight every year (7) rob the world's poorest children of an estimated total of 130 million years of healthy life.

Most of the risk factors discussed in this report are strongly related (g) patterns of living, and particularly to consumption – where it can be a case of either too much or (h). At the other end of the scale from poverty lies “(8) overnutrition” or, perhaps more accurately, “overconsumption”.

Overweight and obesity are important determinants of health and lead (i) adverse metabolic changes, including increases in blood pressure, unfavourable cholesterol levels and increased resistance to insulin. They raise the risks (j) coronary heart disease, stroke, diabetes mellitus, and (9) many forms of cancer. The report shows that (10) obesity is killing about 220 000 men and women a year in the United States of America and Canada alone, and about 320 000 men and women in 20 countries of Western Europe.

(Cited from The World Health Report 2002, *Reducing Risks, Promoting Healthy Life*, WHO, 2002)

設問 1. 貴方はこの文章にどのような英語のタイトルをつけますか。

設問 2. 括弧のなかに適当な英語の語句を答えなさい。

a(            ), b(            ), c(            ), d(            ), e(            ), f(            )  
 g(            ), h(2語)(            ), i(            ), j(            )

設問 3. 下線部の語句に対する設問に英語で答えなさい。

- (1) 同義語を文中から探して答えなさい。 (            )
- (2) 反義語を答えなさい。 (            )
- (3) 適当な語句を文中から探して答えなさい。 (            )
- (4) 同義語を文中から探して答えなさい。 (            )
- (5) WHO のフルネームを答えなさい。 (            )
- (6) 同義語を文中から探して答えなさい。 (            )
- (7) 同義語を文中から探して答えなさい。 (            )
- (8) 反義語を文中から探して答えなさい。 (            )
- (9) 関連するがんを一つ挙げなさい。 (            )
- (10) 形容詞形を答えなさい。 (            )

設問 4. この文章を日本語 (200 字以内) で要約しなさい。

問2 以下の文章を読んで設問に答えなさい。

Living underwater is one of the long standing dreams of humankind and is one of the magical themes of well known fairy tales such as the Little Mermaid and Urashima Taro. Humans have a new chance to breath and live in liquid with the introduction of liquid ventilation.

The concept of liquid ventilation is not new, but the clinical application of the technique with perfluorocarbons is just beginning. There are many encouraging reports supporting the ideas behind the technique, although its clinical use has not yet been formally approved. But it is not too early for clinicians to consider investigating its clinical feasibility.

Historically, attempts to improve ventilation during respiratory distress have focused on increasing tidal volume, hence enhancing gas convection. The introduction of high frequency oscillation made us aware of another strategy, enhancing diffusion, and demonstrated the importance of the prevention of lung injury by avoiding cyclic lung movement.

Introduction of liquid ventilation adds another new dimension to fight respiratory difficulty by eliminating the interface between the alveolar surface and air (i.e. surface tension, the biggest obstacle to keeping the lung open). Partial liquid ventilation should have a strong impact on clinical respiratory care.

The process of partial liquid ventilation is based on this approach to surface tension reduction. The lung is filled with a liquid perfluoro-chemical that is not miscible with water and won't solublize surfactant. A conventional gas ventilator is then used to deliver tidal volumes of air into these alveoli. In inspiration, a bubble forms in the alveolus and ( A ) can diffuse down its concentration gradient from the bubble to the alveolar capillary; carbon dioxide can diffuse in the opposite direction. In expiration, this bubble either gets smaller or disappears entirely, and expired air carries away the excess carbon dioxide. So, partial liquid ventilation is really gas ventilation of the liquid filled lung.

( from a foreword of "Partial Liquid Ventilation", K. Miyasa, Blackwell Science Japan, 1997)

設問1 (A)の部分に入る単語として最も適切なものを○印で示しなさい。

- ( ) oxygen
- ( ) nitrogen
- ( ) nitric oxide
- ( ) carbon dioxide

設問2 この短文に表題を付ける場合、最も適切なものを○で示しなさい。

- ( ) 心臓疾患に朗報
- ( ) 新しい人工換気療法
- ( ) 人と毒ガス

設問3 文中に登場する perfluorocarbons (perfluoro-chemical)の特徴として誤っているものはどれか。

- ( ) 液体である
- ( ) 気道への投与が可能である
- ( ) 酸素との親和性がきわめて低い

設問4 もしも、人が液体中で生活出来たとしたら、どのような利点を考えるか、簡単に述べなさい。

Problem 1. Read the following sentences and answer the questions below in English or Japanese.

The findings of the report give an intriguing – and alarming – insight (a) not just the current causes of disease and death and the factors underlying them, (b) also into human behaviour and how it may be changing around the world. Most of all they emphasize the global gap between (1) the haves and the have-nots by showing just how much of the world's burden is the result of undernutrition among the poor and of overnutrition among those who are better-off, wherever they live.

The contrast is shocking. According (c) the report, at the same time that there are 170 million children in poor countries who are underweight – and over three million of them die each year as a result – there are more than one billion adults worldwide who are overweight and at least 300 million who are clinically obese. Among these, about half a million people in North America and Western Europe die from obesity–(d) diseases every year.

So it is clear that at one end of the risk factor scale lies poverty, where underweight remains the leading cause of disease burden among hundreds of millions of the world's poorest people and a major cause of death, especially among young children. The report shows that, underweight remains a massive and pervasive problem in (2) developing countries, where (3) is a strong underlying (4) determinant.

All ages are (e) risk, but underweight is most prevalent among children under five years of age, and (5) WHO estimates that (6) approximately 27% of children in this age group are underweight. This caused an estimated 3.4 million deaths in 2000, including about 1.8 million in Africa and 1.2 million in countries in Asia. It was contributing factor in 60% of all child deaths in developing countries. In other words, the report says, deaths (f) underweight every year (7) rob the world's poorest children of an estimated total of 130 million years of healthy life.

Most of the risk factors discussed in this report are strongly related (g) patterns of living, and particularly to consumption – where it can be a case of either too much or (h). At the other end of the scale from poverty lies “(8) overnutrition” or, perhaps more accurately, “overconsumption”.

Overweight and obesity are important determinants of health and lead (i) adverse metabolic changes, including increases in blood pressure, unfavourable cholesterol levels and increased resistance to insulin. They raise the risks (j) coronary heart disease, stroke, diabetes mellitus, and (9) many forms of cancer. The report shows that (10) obesity is killing about 220 000 men and women a year in the United States of America and Canada alone, and about 320 000 men and women in 20 countries of Western Europe.

(Cited from The World Health Report 2002, *Reducing Risks, Promoting Healthy Life*, WHO, 2002)

Q1. What title do you give to these sentences?

Q2. Answer appropriate word/words for the parentheses.

a(            ), b(            ), c(            ), d(            ), e(            ), f(            )  
g(            ), h (2 words) (            ), i(            ), j(            )

Q3. Answer the questions to the underlined words.

- (1) Answer the synonym seen in the sentences. (            )  
 (2) Answer the antonym. (            )  
 (3) Answer appropriate words seen in the sentences. (            )  
 (4) Answer the synonym seen in the sentences. (            )  
 (5) Provide the full name for WHO. (            )  
 (6) Answer the synonym seen in the sentences. (            )  
 (7) Answer the synonym seen in the sentences. (            )  
 (8) Answer antonym seen in the sentences. (            )  
 (9) List one of the related cancers. (            )  
 (10) Provide the adjective form. (            )

Q.4. Summarize these sentences within 100 words.

2 Read the following sentences and answer the questions below in English or Japanese.

Living underwater is one of the long standing dreams of humankind and is one of the magical themes of well known fairy tales such as the Little Mermaid and Urashima Taro. Humans have a new chance to breath and live in liquid with the introduction of liquid ventilation.

The concept of liquid ventilation is not new, but the clinical application of the technique with perfluorocarbons is just beginning. There are many encouraging reports supporting the ideas behind the technique, although its clinical use has not yet been formally approved. But it is not too early for clinicians to consider investigating its clinical feasibility.

Historically, attempts to improve ventilation during respiratory distress have focused on increasing tidal volume, hence enhancing gas convection. The introduction of high frequency oscillation made us aware of another strategy, enhancing diffusion, and demonstrated the importance of the prevention of lung injury by avoiding cyclic lung movement.

Introduction of liquid ventilation adds another new dimension to fight respiratory difficulty by eliminating the interface between the alveolar surface and air (i.e. surface tension, the biggest obstacle to keeping the lung open). Partial liquid ventilation should have a strong impact on clinical respiratory care.

The process of partial liquid ventilation is based on this approach to surface tension reduction. The lung is filled with a liquid perfluoro-chemical that is not miscible with water and won't solublize surfactant. A conventional gas ventilator is then used to deliver tidal volumes of air into these alveoli. In inspiration, a bubble forms in the alveolus and ( A ) can diffuse down its concentration gradient from the bubble to the alveolar capillary; carbon dioxide can diffuse in the opposite direction. In expiration, this bubble either gets smaller or disappears entirely, and expired air carries away the excess carbon dioxide. So, partial liquid ventilation is really gas ventilation of the liquid filled lung.

( from a foreword of "Partial Liquid Ventilation", K. Miyasaka, Blackwell Science Japan, 1997)

Question 1 Which is the most proper word for (A)?

- ( ) nitrogen
- ( ) nitric oxide
- ( ) carbon dioxide

Question 2 Which is the most proper title for this short sentence?

- ( ) A good news for heart diseases
- ( ) A novel ventilation therapy
- ( ) A poison gas and human

Question 3 Which sentence is wrong regarding the characteristics of perfluorocarbons (perfluoro-chemical)?

- ( ) This is a liquid.
- ( ) It is possible to deliver it via the airway.
- ( ) The affinity to oxygen is extremely low.

Question 4 What are benefits and advantages if the human can live under the water?

問1. 次の文章を読み、以下の設問に答えなさい。

(a) 人間ドックの結果表の数値が、四十代半ばで、(A) 生活習慣病に向かって(1) (きゅうげき) に変化した。それで、毎日のように飲み歩いていたのをやめて、泳ぐようにした。幸い、家がジムのあるホテルに近かったので、だんだん行く回数が増えて、この十年は、平均が毎日一回を(2) (こ) えている。つまり朝夕二度行く日もあるのだ。しかも、泳ぐまえに、エアロバイクを(3) (こ) ぎ、ストレッチをするなど、だんだん(4) (なかみ) が盛りだくさんになってきた。

(5) (えら) いですななどと言われることがあるが、そうではない。やめられないのだ。ゴルフ場の汚い池をみて、帰りに泳ぎに行くためには、早めにゴルフ場を出ようなどと考えるのだから、(B) ほとんどビョーキだ。(C) 別の生活習慣病にかかったと言ってもいい。

ジムには似たようなマニアが何人かいて、「これが一番ですな」などと、(b) 同病相憐れんでいるみたいなのがおかしい。

効果はあった。人間ドックの数値は、(6) (かえり) のせいもあって、悪くなるのが止まった(7) (ていど) だが、ドライバーの飛距離は落ちず、風邪をひかなくなった。

八年前に妻が一年間の(c) 闘病のすえに亡くなった。見舞いの帰りに泳いだときには、何度もゴーグルの中に涙が溜まった。でも、あの猛烈なストレスに耐え得たのは水泳のおかげだ。

不思議な効果もあった。そのころ、長年(d) 共棲していた水虫が出なくなったのだ。「まあ、汚い。だからプールは嫌い。その虫が、皆、なかで泳いでいるんでしょう？」と、(e) 篤く病んでいたが、最後まで(8) (ようき) だった妻が言った。

水虫が泳ぐとは知らなかった。(9) (じょうだん) 好きの(10) (ゆかい) な女性だった。

(安土 敏、「紙つぶて」、中日新聞(夕刊)、平成14年8月24日)

設問1. 貴方はこの文章にどのようなタイトルをつけますか。

設問2. 括弧中のひらがなを漢字で書きなさい。

(1) (            ), (2) (            ), (3) (            ), (4) (            ), (5) (            )  
(6) (            ), (7) (            ), (8) (            ), (9) (            ), (10) (            )

設問3. (A)-1 生活習慣病とはどんな病気ですか。(A)-2 生活習慣病の例を3つ挙げなさい。

(B) ほとんどビョーキだと病気をカタカナ書きにしているのでしょうか。

(B) 別の生活習慣病にかかったというのはどういう意味でしょうか。

設問4. 下線部の語句の読み方と意味を答えなさい。

- (a) 人間ドック            読み方(            )、意味(            )  
(b) 同病相憐れんで        読み方(            )、意味(            )  
(c) 闘病                    読み方(            )、意味(            )  
(d) 共棲                    読み方(            )、意味(            )  
(e) 篤く                    読み方(            )、意味(            )

設問5. 著者が妻を心から愛していたことを表す文章を一つ挙げなさい。

平成15年度大学院医学研究科（2回目）  
外国語試験問題・解答用紙（外国人-日本語）

受験番号

問2 次の文章は、平成15年1月8日付け朝日新聞朝刊の家庭欄に掲載された記事からの抜粋です。これを読んで、以下の設問に答えなさい。

「空飛ぶ会話、通う気持ち」

午前2時02分。名古屋市のチアキさん（47）は、夫が眠る傍らで携帯を手にした。居酒屋でバイトする大学生のミユさん（18）はまだ帰らない。娘の帰宅を見届けたいが、仕事で疲れ、翌朝も早い。

<ママは寝るよ>

メールを送信したら2分後。枕元の携帯が鳴った。

<今家ついたよ！>

娘のメールだ。寝ぼけていてもすぐに返信する。

<おやすみね>

<おやすみー>

母娘の生活はすれ違が多い。その隙間をメールの文字が埋める。

ミユさんが高校一年の夏休み、門限に帰らない日が続き、携帯電話にも出ない。中学までは言う通りに動いた「よい子」だったのに。

仕事に打ち込んで、娘を「鍵っ子」にしてしまった。娘の心がつかめない。

「メールなら返事が来る」と友人が教えてくれた。必死で操作を覚えた。

.....

設問1 文章に登場する次の単語の読み方（ひらがな）と意味を簡単に記しなさい。

	読み方	意味
居酒屋	( ) ( )	( )
帰宅	( ) ( )	( )
鍵っ子	( ) ( )	( )

設問2 タイトルの「空飛ぶ会話」とは何を意味しているのか簡単に記しなさい。



平成15年度大学院医学研究科（2回目）

医学・生物学一般試験（問題用紙1枚、解答用紙2枚）

以下の4問題から2問題を選択して解答しなさい。1問題につき1枚の解答用紙を使用すること。紙面不足の場合は裏面使用も可。

問題1 最近マウスのゲノム配列が解読された。以前に発表されたヒトゲノム配列の情報に、さらにマウスゲノム配列の情報が加わることによって、医学・生物学の研究の可能性がどの様に広がるか、その一例を考え説明しなさい。

問題2 アルツハイマー病では早期から特定部位の神経細胞が減少することが知られている。この神経細胞数の減少が Necrosis, Apoptosis, その他の細胞死によるものか、あなたの医学・生物学的な考えを述べなさい。

問題3 固形がんを含めた多様ながん種の治療法の一つとして造血幹細胞移植療法が臨床に導入されているが、最近特に、ミニ移植療法が脚光を浴び、一部のがん症例においては臨床試験として施行されはじめられている。ミニ移植療法に関して以下の設問に答えなさい。

設問1 ミニ移植療法とは如何なる治療法か説明しなさい。

設問2 ミニ移植療法が、がん治療に導入され始めている医科学的背景および、本治療法が包含する問題点も合わせて解説しなさい。

設問3 ミニ移植療法の適応対象として現在非常に期待されているがん種3つ挙げ、簡単な理由を付記しなさい。

問題4 以下のいずれかの問題を選択して簡潔に論じなさい。

設問1 疾病の一次予防と二次予防

設問2 地球環境問題