

20 年度医学部学資編入対策講座

実戦シリーズ 「医学英語」 受講生各位

実戦シリーズ「医学英語」授業形式について

実戦シリーズ医学英語は完成シリーズ医学英語と同様に毎週日曜日の午前 10 時より実施します。ただし、完成シリーズで行っていたテストゼミ形式とは異なり、授業形式で行います。

とは言え、受け身の授業形式ではみなさんの積極的な授業参加を促すことが難しい側面があります。そこで、以下のような形で運営したいと思います。

① 授業実施 1 週間前の土曜日に、翌週扱う問題を発表します。基本的にはテキストに掲載されている問題を利用します。

② その問題について、授業を実施する前日の土曜日までに取り組み、土曜日 15:00 までに 1 階 受付窓口までご提出ください（紙での提出のみ、データ不可）。

この際、

- 答えは小論文用の原稿用紙に手書きで、もしくはワード→プリントアウトした形で、授業に参加される方は出来るだけ提出してください。
- 答えを提出する際には「名前」「受講番号」など、個人が特定されるものについての記載は任意とします。
- 毎週 2 題ほど問題を課します。基本的には「長い英文と短い英文」「比較的難しい英文と比較的易しい英文」といった形で棲み分けします。提出する答えは、いずれか一方のみでも構いません。実際には、お仕事の都合などで片方しかできなかつた、ということもあると思いますので。ただし、授業では 2 題とも扱います。解かなかつた問題は予習なしで授業を受けることとなりますので、気をつけてください。
- 問題を解く際には、記載されている時間を目安として考えてください。辞書を使うなどしても一向に構いません。自分の学力に合わせて、あるいは少しチャレンジするつもりで、「今日は納得のいく日本語答案を作ろう」「今回は時間内に解くことが目標だ」など、自分なりの目的意識を持って問題に取り組んでください。

③ 提出いただいた答案をもとに、授業を行います。

- 提出いただいた答案は、文字起こしして使うことで、個人が特定されないようにします。
- 提出いただいた答案は、そのまま使うというより、間違いが多いところなどを授業で共有する（選択肢問題の正答率などを見たりする）ことで、注意すべきところを確認するために使います。
- 提出いただいた答案は返却しませんので、コピーして解説に臨むことをお勧めします。予めご了承ください。

以上です。みんなで頑張りましょう！

～1 講目の授業には、次の問題を課題として指定します～

問題1 (351語 50分)

次の英文を読んで、設問に答えなさい。

Around the world, countries are trying to encourage more people to donate their organs after death to help those desperately in need of transplants. Wales, for example, is poised to become the first country in the UK to introduce an opt-out system, where consent after death is assumed unless families object. Such systems already exist in Spain and Belgium. Meanwhile, a new report by the UK Nuffield Council on Bioethics suggests that the National Health Service tests the idea of paying for the funerals of organ donors as an incentive for donation. And Germany has announced that it wants to make it possible for its citizens to declare their willingness to donate their organs, and have this information stored on electronic health cards.

In The Lancet today, we are publishing a Series of three papers to add to the debate about ethical, policy, and clinical issues surrounding organ transplantation. The first paper in the Series calls on governments to develop self-sufficiency in organ transplantation, which will help to end transplant tourism and organ trafficking. The authors outline the legal and medical components that countries should include in their transplant programmes to achieve this goal.

The next papers in the Series focus on clinical care after kidney transplantation—the most common type of transplant globally. Health systems need to provide good care for patients after transplantation not only to avoid organ rejection and failure but also to prevent the other main causes of morbidity and mortality. Premature death after kidney transplantation is more likely to happen from cardiovascular complications, infection, and cancer than from graft failure. The second paper in the Series details the steps to be taken to prevent cardiovascular disease in patients who receive kidneys. Chronic rejection and failure of a kidney graft is still a major problem resulting in return to dialysis, and the final Series paper focuses on monitoring and management of patients to avoid this outcome.

The ultimate goal for countries should be ethical systems for organ transplantation that not only encourage and support donation but also provide a high standard of care for patients after transplantation.

(出典： Lancet, Volume 378, Issue 9800, 15–21 October 2011, Page 1356)

語注

Nuffield Council on Bioethics：英国ナフイーールド生命倫理評議会

dialysis : 透析

問1 この論文は何について論じているのか。(10字)

問2 この論文で扱っている内容について、各国ではどのような取り組みが行われているのか。日本についても触れながら、説明せよ。(300字)

問3 この論文では3つの論文について取り上げているが、その内容について説明せよ。(250字)

問題2 (715語 60分)

以下の文章は、Current Transplantation Report からの文章の一部抜粋です。この文章を読んで以下の設問に答えなさい。

Although not applicable to heart transplantation, living donation has become increasingly considered as an option and has made a significant impact on renal transplantation. Living lobar lung transplantation has also provided very promising results and accounted for a significant proportion of donor lungs in countries like Japan, where there are few cadaveric⁽¹⁾ donors. Non-heart beating donors (NHBD) or donation after circulatory⁽²⁾ death (DCD) has provided a significant boost for kidney and lung transplantation volumes, as well as contributed to liver transplant activities.

The concept of using DCD donor organs for transplantation is not a recent one. In fact, prior to the recognition of brain death, all pioneering cadaveric organ transplants were carried out with organs from DCD donors including kidney in 1950, liver and lung in 1963 and the first successful human heart transplant in 1967. It was not until 1968 that the Ad Hoc Committee of the Harvard Medical School published a pivotal⁽³⁾ report on the definition of brain death. Thereafter, this definition gradually gained consensus and was eventually adopted across the USA and Europe during the 1970s. With the approval of the Uniform Determination of Death Act (UDDA) in the USA in 1981, the transplant community moved away from transplanting organs from DCD donors in favour of donation after brain death (DBD) donors because organs from the latter group are perfused right up to the point of organ perfusion/preservation. The International Society for Heart and Lung Transplantation registry became established in 1981 hosting data on >120,000 heart transplants. Virtually all of these cases had been performed using DBD donor hearts. Kidney transplantation was amongst the first to return to DCD to bridge the gap between supply and demand for donor organs. In 1995, the first International Congress on Non Heart Beating Donation was held in Maastricht at which categories of DCD were defined. Categories I and II were considered uncontrolled death while categories III and IV were considered controlled death. The Maastricht criteria were subsequently revised to include category V which was also considered uncontrolled. To date, kidney transplantation has been the biggest benefactor of the implementation of DCD transplantation with some renal transplant programmes almost doubling their activities. The first case of successful lung

transplant from a category III DCD donor was in 1995. Steen and colleagues followed this with the introduction of ex-vivo⁽⁴⁾ lung perfusion which enabled lung donation and subsequent transplantation from uncontrolled DCD donors. This breakthrough triggered further interest in machine perfusion of donor organs and its evaluation after harvest and prior to transplantation. In the UK, there has been an exponential growth in the number of DCD donors over the last decade which now account for 42 % of all deceased donors. It is clear that DCD donors potentially represent a vital source of donor hearts which should be explored.

In the uncontrolled DCD setting, donor organs are potentially subjected to prolonged periods of warm ischaemia⁽⁵⁾ which limits their appeal for clinical transplantation. Controlled DCD donors also experience periods of warm ischaemia but since withdrawal of life support is planned and the organ retrieval teams are at hand, the opportunity to limit the warm ischaemic insult is available. However, can a heart that has arrested and required resuscitation⁽⁶⁾ be used to support the recipient circulation after transplantation?

In 1995, Kawauchi and colleagues showed that paediatric⁽⁷⁾ hearts that had required prolonged periods of cardiopulmonary resuscitation could be safely used in the clinical setting. This group from the Loma Linda Medical Centre expanded their work transplanting resuscitated DCD hearts from an anoxic⁽⁸⁾ arrest model in lambs. Ali et al reported a series of experiments to assess the recovery of cardiac function following resuscitation in a large animal model. The results showed that DCD hearts subjected to 15 min of warm ischaemia and reperfusion⁽⁹⁾ had comparable myocardial function to DBD hearts. In 2007, the Papworth team in Cambridge, UK, demonstrated that the heart of an adult human DCD donor subjected to 23 min of warm ischaemia following cardiorespiratory arrest could be resuscitated by placing the donor on extracorporeal⁽¹⁰⁾ perfusion⁽¹¹⁾. Following reperfusion and reconditioning, the heart recovered sufficiently to independently support the donor circulation and was weaned off extracorporeal perfusion. However, this heart was not transplanted as the necessary approval and consent for DCD heart donation were not in place at the time.

(Current transplantation reports 2016 3:199-206 からの一部抜粋、一部改変)

【下線部注釈】

- (1) cadaveric : 屍体の
- (2) circulatory : 循環上の
- (3) pivotal : 重要な

- (4) ex-vivo : 体外に取り出して
- (5) ischaemia : 虚血
- (6) resuscitation : 蘇生
- (7) paediatric : 小児科の
- (8) anoxic : 無酸素の
- (9) reperfusion : 再灌流
- (10) extracorporeal : 体外の
- (11) perfusion : 灌流

問1 DCD と DBD との違いを述べ、DCD に注目が集まっている理由を、100 文字以上 150 字以内で説明せよ。

問2 現在の日本の心臓移植事情の問題点について言及し、それを改善させるために、具体的な方策を DCD, DBD という語句を用いて 150 字以上 200 字以内で述べよ。