

EACH YEAR IN:
NOVEMBER,
MARCH & JULY

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- Personal Statements | Medical School Societies | Work Experience | Ethics | UKCAT | BMAT
- Applying for Scholarships | Volunteering | Research and Publishing | PBL | Selecting your Medical Schools | Current Affairs | Gap Years | Clearing | Reapplying and Resitting Exams

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* Medic Mentor is a Social Enterprise that reinvests proceeds from events, books and the Summer School, back into scholarships and free educational resources. We also provide free event places to students from low-income backgrounds.

* We don't just help you to get into Medical School. We support you throughout your medical degree, from application to graduation!

* Register for a free online account to join our thriving community and start participating in nationwide events! www.medicmentor.co.uk/members-registration-form/

Over 2000 Mentors teaching nearly 6000 Applying Students from over 800 Schools across the UK

1 Click on the webinar link
Direct links will be emailed to you weekly, so that you can access the each Webinar. Create a free Medic Mentor account to stay in the loop!

2 Interactive Live Chat
This function allows you to post your queries to the Medic Mentor Presenter. Further online responses will be logged in for immediate responses to key questions during webinars.

3 Download free handouts
You will be able to download the handouts from your free Medic Mentor student account at www.medicmentor.co.uk/

Medic Mentor's Study Guide

2018

MOTIVATING MEDICAL
OCTOBER
SITUATIONAL JUDGEMENT
PBL CASE: MULTIPLE FRACTURES

Also included:
THE DEBATE
CURRENT AFFAIRS
CRITICAL ANALYSIS OF AN ARTICLE

Medic Mentor
Motivating Medical Minds

Medical Schools
Compendium®

A Complete Guide to
UK Medical Schools

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MOTIVATING MEDICAL

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"The Study Guides provide aspiring doctors, dentists and vets with a free long-distance learning programme to develop wider knowledge and transferrable skills. Each month's study guide is paired with a free webinar that is taught online on Medic Mentor's Youtube channel.

The guides can be worked through individually, or as a group and can form the basis for meetings run by school medics societies. You can even invite Mentors to your school to help set up a society! "

Dr Quinn

Vice President of Educational Resources



The Education Directorate Meeting at Medic Mentor Headquarters October 2018

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Work through it individually or as part of a medics society in your school!



School Ambassadors 2018 School Council Meeting, London, January

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School Ambassadors 2018 School Council Meeting, Scotland, February

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MENTOR MAGAZINE, SUMMER/
AUTUMN 2018

Motivating

Medical

Minds





Suitable for students from Year 10 or S3 upwards (and parents welcome!)
Multiple locations across the UK this November

TAKE YOUR FIRST STEPS TOWARDS A CAREER IN

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Believe me, as a Doctor myself, having been through the journey of medical school applications and all the way through to working life, I know it is not an easy path, but it is most certainly an enjoyable, diverse and rewarding one!

First and foremost, congratulations! To be even considering the prospect of a career in medicine, dentistry or veterinary is an incredible accolade.

Getting into a competitive healthcare course requires a great degree of dedication, in addition to showing an early aptitude for the profession, i.e. a few sparks of potential that will one day make a healthcare professional.

We hope you enjoy the study guide and encourage you to read the reviews and thoughts published in the Medic Mentor magazine.

Good luck!

FOREWARD

BY DR LAUREN QUINN, MBChB, BMedSci, VICE PRESIDENT OF EDUCATIONAL RESOURCES. EMAIL: VPEDUCATION@MEDICMENTOR.ORG TWITTER: @MMDRQUINN

This monthly study guide provides the ingredients to build on your early aptitude, helping you to develop your skills in problem based learning, debate, critical appraisal and ethical reasoning, which form the very foundations of a successful career in the health sciences, from medicine, to dentistry to veterinary medicine. Harnessing these skills early will not only equip you well for the application process and make you stand out from the crowd, but will serve you all through your degree and future careers. The more you put into this study guide, the more you will get out. We strongly encourage you to use this study guide in a group setting, to work together through the chapters and build on your skills as a team. However, the monthly study guide will also be accompanied by a monthly webinar by professionals in the sectors of medicine, dentistry and veterinary medicine, to broaden your horizons and provide context to the cases.

The most successful Medic Mentor students get involved in everything! Don't hesitate; put yourself outside of your comfort zone and your confidence will grow! Apply for competitions, attend events, read as much as you can, and follow the Study Series!

Problem Based Learning Case:

Problem based learning (PBL) is a popular method, currently used by most health professional courses in the UK, in one form or another. The aim of PBL is for the learner to read through a complex and broad series of information, to identify areas of interest and areas they would like to explore further, in order to enhance their knowledge of specific topics, in a self-directed fashion. Through this series, we encourage prospective students to gain their first insights of PBL; read the case individually or as a group, look up what you don't know and scrutinise topics of interest. The questions provided offer ideas of topics to explore and are written in three streams for aspiring medics, dentists and veterinarians; focus on all three or simply what interests you!

Amanda, a 55 year old, normally fit and well lady was on a quiet country lane horse-riding her sixteen-hand ginger thoroughbred, Charles. She was recovering from a busy week abroad on a business trip to Saudi Arabia. A car appeared from nowhere and sped by, almost clipping Charles' hind leg. Charles, of normally quiet temperament was startled, bucked and Amanda came tumbling off to land on the road. She landed on her chin and right rib cage despite putting her right arm out to save her. The next car that came by stopped to assist and immediately called 999. Charles was waiting anxiously beside Amanda, who was grunting and moving abnormally. The passer-by could see extensive bleeding from her chin. The ambulance came and found her GCS to be 12. They fitted a neck brace and strapped her to a board for transfer to the ambulance. She was taken to the nearest major trauma centre. On arrival she had a full body CT scan which showed a guardsman fracture in addition to multiple rib fractures, but no internal bleeding. On examination, her right chest was hyper-resonant and her breathing was laboured but airway was maintained. Saturations were 92%, but improved to 96% on 15 litres of Oxygen per minute. She was tachycardic but blood pressure was maintained and heart sounds were normal. A right sided pneumothorax was diagnosed which was managed accordingly. She was referred to the Maxillo-facial team who performed emergency surgery. Whilst recovering from surgery, despite initial improvement, she was starting to deteriorate, experiencing fevers and a recurrent cough. Her recent foreign travel was called into question and she was investigated for MERS. She was isolated but later found to be MERS negative. She was also found to have a right wrist fracture, which was placed in a brace for stabilisation. Four weeks later in fracture clinic, her hand was found to be weak, with muscle wasting, but the repeat x-ray showed

THE PBL CASE

FALL FROM HORSE RESULTING IN MULTIPLE FRACTURES

alignment of the joint and healing of the fracture. She was referred for physiotherapy to strengthen her right wrist and hand, with a view to getting her back horse riding thereafter. Fortunately, after the initial incident, Charles was safely returned to the yard but he was not eating normally and his behaviour was quieter than his usual self. Amanda

was also starting to experience flashbacks of the trauma; she was struggling to sleep and had difficulty coping at work. She went to see her GP who was concerned she was suffering from Post-Traumatic Stress Disorder. Amanda was referred for counselling and one year later managed to return to horse riding.

We have created 3 streams of questioning for you to consider based on your area of interest: medicine, dentistry or veterinary:

Lead by Dr Sharonjeet Uppal, Vice President of Mentoring

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MEDICINE-SPECIFIC:

- 1.What facial trauma could she have sustained?
- 2. What is GCS and what is its significance?
- 3. Why was she strapped and fixed in the pre-hospital setting?
- 4. What is a pneumothorax and how is it managed?
- 5. What is MERS and how is it investigated and treated?
- 6. How important is travel information in managing inpatients?
- 7. What are the principles of fracture management?
- 8. What is Post-traumatic stress disorder and how is it managed?

DENTISTRY-SPECIFIC:

- 1. What facial trauma could she have sustained?
- 2. How should this trauma be investigated and managed?
- 3. What is a Guardsman fracture?
- 4. How important is travel information in managing dental patients?
- 5. Discuss the importance of consent prior to performing emergency dental/maxillofacial surgery
- 6. Imagine Amanda had broken her front teeth, how would this have been managed?

Stay up-to-date with the MENTOR MAG



Here as some thoughts to help you guide your discussion:

VETERINARY-SPECIFIC:

- 1. What is the legalisation on vehicle safety around horses?
- 2. In this situation, when help comes, who should they help first, person or pet? And why?
- 3. How important is travel information in managing veterinary patients?
- 4. In situations such as this, how important is animal welfare and safety, and who can help ensure this?
- 5. Imagine the car had hit Charles’ hind leg, how would this have been managed?
- 6. What is MERS and how is it spread?

YOUR HEALTHCARE CAREER STARTS HERE...

NATIONAL HEALTHCARE WEEKEND

“It just blew my mind! I met healthcare professionals who were honest and now I feel as though I have made an informed decision to pursue the career that I really want. I have been to similar events before but there is just nothing this good!”

Sophie Bridgewater, Year 12

ALL PHOTOS ARE FROM REAL MEDIC MENTOR EVENTS

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EACH YEAR IN:

NOVEMBER,
MARCH & JULY

VENUE CITIES
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- LONDON
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Medic Mentor
Motivating Medical Minds

DAY 1: INSIGHT CONFERENCE

The INSIGHT Conference is an essential event for any aspiring doctor, dentist or vet. It will help you to make an informed career decision and develop a greater insight into your chosen profession; a scored component of the UCAS application.

DAY 2: UCAS LECTURES

Optional UCAS lectures (for medicine only), offer comprehensive UCAS application support; for students who want to make a competitive application to medical school.

PRICES:

DAY 1 = £25/STUDENT OR 2 PARENTS,
DAY 2 = £90/STUDENT (UPTO 2 PARENTS FREE).
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THE MENTORING ORGANISATION FOR ASPIRING DOCTORS, DENTISTS AND VETS

National Healthcare Weekend is suitable for students in years 10-12 or S3-S5. Parents and teachers are also encouraged to attend.

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PROCEEDS FROM THESE EVENTS ARE
REINVESTED TO SUPPORT THE NEXT
GENERATION OF HEALTHCARE
PROFESSIONALS, VIA SCHOLARSHIP
PROGRAMMES AND EDUCATIONAL
OUTREACH INITIATIVES.

Situational Judgement Test Question

Situational Judgement Tests (SJT) are an important means of assessing a health care professionals' professionalism and ethical reasoning. SJT questions comprise a real-life challenging scenario and provide five options for actions that could be taken in the situation given. The answers usually need to be selected or ranked in order of importance, from most suitable action/reasoning to least suitable action/reasoning. Respondents are expected to answer the question, in accordance with the guidelines from their governing body; in the case of Doctors, this would be the General Medical Council (GMC). SJT questions are designed to challenge but with practice and understanding the reasoning behind the answers, they are something you can get the hang of. This is really important not only for applying to medical school, as you will be ranked on SJT questions in the ULKCAT, but also throughout your degree and in your future career.

Imagine you are a junior doctor working on a children's ward, with lots of sick kids. It has been a long week and it's now 9pm on Friday, your last day of the working week before a good weekends rest. You were supposed to finish at 7pm, but you are now already two hours late and not near to finishing. Your colleague had to leave at 5pm to pick up her kids from school. The consultant gave you nearly a hundred jobs to do in the morning and you are still working through them. You are feeling utterly exhausted and are struggling to concentrate. In the last two weeks alone, you have had four late finishes. The workload is starting to take its toll on your work-life balance.

What factors should you consider in deciding what course of action to take, place in order of most important to least important.

- A. Effect of working long hours on your overall health and wellbeing
- B. Letting down friends multiple times because of not being able to attend social events in the evenings
- C. Your Consultant will think badly of you if you are not doing what they have asked of you
- D. Putting patient safety at risk
- E. That you are contracted for set hours and should finish on time





Find out how over 80% of last year's Summer School students
successfully applied to Medical Schools in the UK

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Situational Judgement Test Answer: DAECB

Working as a Doctor requires an individual to have a good work life balance, with rest and recuperation in between the challenges of the day-to-day job. The GMC state that patient safety is your primary concern, hence in this situation, this must come first. However, Doctors must be able to recognise when they are fatiguing and when they may require help and support from colleagues and peers at work and outside of work. The European Directive stipulates safe working hours for doctors, and doctors are obliged to abide by this, and should inform administrators when they are working significantly over their contracted working hours. Everyone wants a good reference from their Consultant, but that is not what's most important here. Finally, letting friends down by not attending social events is difficult but not a factor you should be burdened by and should not influence your decision making in this situation.

THE DEBATE

**"IS MEDICINE/DENTISTRY/VETERINARY MEDICINE AN
ART OR A SCIENCE?"**

Points to consider:

1. What does medicine as an art mean to you?
2. What does medicine as a science mean to you?
3. Can a patient's health needs be fulfilled by following a textbook?
4. Is communication an art or a science? Can you learn or be taught good communication skills? Are people naturally good or naturally bad communicators?
5. Are medics scientists? Why and Why not?
6. Can all of medicine and health be explained by scientific principles? Why or why not?
7. Which is more important medicine as an art or as a science?
8. What makes a doctor different from any other profession?
9. Medical practitioners are one of the most trustworthy of professions. Why is this?
10. If your degree teaches you the science of medicine, how do you learn the art of medicine?
11. Medical practitioners used to be trained in humanities, arts and science? Should this be done today? What are the advantages and disadvantages of this?
12. Is science widely translatable to the general public? Are the arts more relatable to the general public than the sciences?

An important skill as a future medical practitioner is to debate, critically appraise information, weigh up arguments for and against and come to a considered and well-reasoned view point. In this series, we provide a debate topic which we want you to consider in detail; what immediately comes to mind, how would you defend your point of view if challenged-what evidence would you use to support your arguments and what are the strengths and flaws of the for and against arguments. We encourage you to work through the questions below, ideally with peers or colleagues.

'Who are the CQC?'

A recent news story has revealed that one hundred deaths at an obstetrics hospital in Shropshire are to be investigated, after mothers and babies are thought to have died unnecessarily. The Princess Royal Hospital Trust is under investigation by the Care Quality Commission (CQC) after the former Health Secretary, Jeremy Hunt, called for enquiries to be made following the identification of 9 avoidable baby deaths in a 21 month period. In this article we will outline who the CQC are and what their role is in 21st century healthcare.

The Care Quality Commission (CQC) are an independent regulator for health and social care services across the UK. The CQC was commissioned and funding increased following the scathing Sir Robert Francis (QC) report, which detailed numerous failings and poor care in the Mid-Staffordshire trust. The CQC performs overall assessments on a hospitals' safety, effectiveness, caring nature, responsiveness and leadership, with each domain being rated as outstanding, good, requiring improvement or inadequate. The CQC provides reports for hospitals on what they are doing well and areas they need to address, which are expected to be improved upon by the next time they come to review. CQC reports are widely available to the public, patients and professionals online, to increase transparency. Specific services within the hospital, are also rated by the CQC, such as individual specialities and departments like outpatients. When the care in an organisation is considered to fall below the pre-set standards, the CQC has the power to restrict the services they can offer, or even put the organisation into special measures and increase monitoring with a view to preventing harm and raising the standards of care provided.

Essentially, the CQC aims to provide an independent viewpoint to enable an organisation to raise their standards of care by identifying their inadequacies. This sounds like the perfect solution to improving healthcare overall. However, it certainly is not an easy job to ascertain the standard of care across an entire hospital when the period of inspection equates to a matter of days. Indeed, the CQC was heavily criticised in its first few years, when hospitals rated as good were later investigated for causing harm. However, Sir David Behan, the outgoing Chief Executive of the CQC for the last six years, will be remembered for having implemented a rigorous regulatory regime. He insists that he has improved the safety and quality of care provided by health and social care providers across the UK. Now, only time will tell how the CQC will cope and progress under the guidance of a new leader.

SCIENCE IN THE SPOTLIGHT

IN THIS SECTION, WE AIM TO COVER A TOPICAL NEWS STORY, PROVIDING THE SCIENCE BEHIND THE STORY, AND DISTINGUISHING FACT FROM THE FICTION

In summary, the benefits of the CQC are their ability to independently review hospitals, highlighting those where care is sub-par and that require additional help, as is the case for the Princess Royal Trust. Overall, the CQC are endeavouring to improve transparency and create a healthcare culture that is open to its inadequacies and drive change to correct these inherent issues. As opposed to the critical situation where hospitals are not monitored and poor care remains the standard, which only ever comprises staff and patients alike. I hope moving forward, doctors of the future will benefit from this approach, especially as our oath is that the care of our patient is our first concern.

Email engagement@medicmentor.org or call 01524389772

Set up a Medics Society!

If you would like Mentors to visit your school and set up a Medics Society get in touch with Alex Merritt, the School Lead for Medic

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INTRODUCTION

DR QUINN IS PART OF THE EDUCATION DIRECTORATE AT MEDIC MENTOR, A COMMITTEE OF DOCTORS, VETS & DENTISTS, WHO OVERSEE ALL OF OUR NATIONAL MENTORING INITIATIVES FOR

Hello. My name is Lauren Quinn, and I am a recently qualified junior doctor. I came into Medicine straight from school with the inherent dream of one day becoming a Professor; the 'Profs' were the people who had truly inspired me during my work experience, the fact they could balance clinical practice with innovation in research and jet-set all over the world to share and collect ideas. That to me aged 18 years was the dream! On starting medical school, from the outset I wanted to get involved in research, to start building my skillset and gain invaluable experience. And that is what I did! I never said no, I was always seeking new opportunities, and where they didn't exist I would create them. The best thing was that by taking on all these responsibilities, it made me love medicine even more. I never tired of learning and undertaking research alongside the study of medicine made it all more relevant and digestible. I left medical school still loving medicine, having undertaken eight different research projects which led to a handful of presentations across the globe, prizes and publications and the dream ever present to pursue an academic career (by this point, I realised becoming a Professor was a tough and probably unrealistic ambition, but my dream lives on!).

Now I have been working as a doctor for two months and boy have I learnt a lot. So what has being a real junior doctor taught me? Medicine is tough, you will have very good days, and very bad days and most days are somewhere in between. The staff in the NHS are wonderful, from the Consultants to the occupational therapists, everyone is in the job because they want to make a difference to the lives of people who are at their most vulnerable. I admire and look up to all my senior colleagues, who have progressed so far and so successfully through a rigorous system, and I only hope I can be the same one day, as competent and as kind as they have been to me. There are days where as a junior, you are simply an administrator, and other days where your patients do not fit the textbooks that you learnt from in medical school. And the latter are the days I love, which remind me why I pursued medicine, and challenge me to learn and develop to ever improve my grasp of the infinite concept that is human health and disease. After 8 weeks in the job, I still love it, I wouldn't change my job for the world, and I hope in 40 years time I can still say the same!

Dr Lauren Quinn, Aspiring Clinical Medic



Mentor Profile: Dr
**LAUREN
QUINN**

**VICE PRESIDENT
of EDUCATIONAL
RESOURCES**

CRITICAL ANALYSIS OF AN ARTICLE

"ARE WE WHAT WE EAT?" BY GRACE
LAMB

I enjoyed reading Grace's article on 'Are we what we eat'. As an aspiring diabetologist (diabetes consultant), this topic area is a critical yet very poorly understood issue. Given the importance of nutrition for survival, its role in health and wellbeing has been very poorly ascertained. Only a few years back did they realise that poor hospital food was a contributing factor to delayed healing and discharge. There is a major call for us to better understand the role of lifestyle factors in disease processes, especially as the majority of twenty first century medicine is lifestyle disease. In addition to Grace's thoughts, I wanted to add the following points for consideration, on the complex debate that is fats vs sugars:

- The jury is out on which are worst for your health-fats or sugars. There is evidence for and against both. As Health Care Professionals, this limits the advice we can give to patients, but usually makes us resort to the age old adage



MENTOR

SUMMER/AUTUMN 2018

INSPIRATIONS

of “everything in moderation”, which is usually neither helpful nor abided by.

- Remember that not all cases of Type 2 diabetes are entirely preventable by diet. Increasingly, we are identifying more and more genetic predispositions which contribute to disease progression.
- Meat consumption has reached record levels but the consequences are not just affecting human health. Our ecosystems are struggling, which yet again calls into question our environmental stewardship as humans and what can be done to improve this.
- The fast food revolution is the simple consequence of twenty first century living. Our entire lives are centred around quick and easy food in order to maximise productivity. We spend the majority of our days sitting, which itself is an independent risk factor for morbidity. We need complete overhaul of our lifestyles to combat the issues facing twenty first century medicine that is obesity, cardiovascular disease, dementia and many more. Advertising around healthy eating is important, but is only part of the process. We need governmental departments to work together from education, to councils, to transport, to health to be able to combat lifestyle diseases.
- Finally, do the risks of a vegan diet not outweigh the benefits?

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CRITICAL ANALYSIS OF AN ARTICLE

LEARN TO THINK CRITICALLY LIKE A HEALTHCARE PROFESSIONAL

A key skill that every medical student should acquire is the critical appraisal of research articles. In the UK, we practise evidence-based medicine which essentially means that decisions regarding clinical guidelines, investigations and management of conditions are made after careful evaluation of scientific evidence. The most basic form of such evidence is research published in peer-reviewed scientific papers. However, there is a real art to distinguishing between good, robust scientific findings and science that is lacking in good evidence. Just because something is published in a newspaper, online, journal, or even a textbook does not mean it is definitely true.

Critical appraisal is a process used to identify the strengths and weaknesses of an article in order to objectively assess its usefulness and validity.

We, at Medic Mentor, would like to encourage you to learn this invaluable skill as soon as possible. However, instead of reading dry scientific papers that are likely to be above your level of understanding, in each School Societies Bulletin we will give you an interesting medicine-related article to read and appraise. This is also a useful skill, as we are presented with opinions mixed in with facts in the media every day, and doctors need to be able to dissect to the key issues.

As well as this, we now offer an amazing opportunity for those of you who want to voice your opinion or just get a huge brownie point for application to medical school and beyond. Write down your critical appraisal using the “Letter Guidance” in the downloads section of our website for full details. The best letters will be published in the subsequent issue of Medic Mentor Magazine, the only magazine in the UK dedicated to students applying to healthcare degrees, where school students can put their name to an article. It cannot be emphasised enough how good such a thing would look on a medical candidate’s CV.

Are We What We Eat?

Grace Lamb

With obesity rates on the rise, diabetes, cardiovascular disease and other diseases associated with obesity remain prevalent. Statistical studies undertaken show that in the UK in 2016, 26% of adults were classified as obese, which has increased from 15% in 1993, and 1 in 5 children in year 6 are obese. This puts a significant strain on the NHS as in 2016/17 there were 617000 admissions in NHS hospitals where obesity was a factor. Obesity can lead to many diseases including cardiovascular disease and type 2 diabetes. Being one of the leading preventable causes of death, obesity is clearly a major problem in the UK, so how can it be prevented? How can we improve our health? What is the best diet for humans?

The risk of developing diseases such as coronary heart disease, vascular dementia and type 2 diabetes can be increased by factors including high blood pressure and a diet high in saturated fat and LDL cholesterol. It was originally believed that saturated fat directly increased the risk of these diseases but randomised controlled trials showed that reduced saturated fat intake that was replaced by consumption of unsaturated fatty acids was associated with

a 17% lower risk of cardiovascular events.

However, as the liver converts saturated fat into LDL cholesterol, the consumption of saturated fat significantly increases the

concentration of LDL cholesterol in the blood much more than mixed carbohydrates and cis-unsaturated fatty acids. This is a major problem as cholesterol is one of the main constituents that make up the plaques that narrow or block arteries and raise blood pressure, potentially leading to thrombosis, myocardial infarction or an aneurysm. Atherosclerosis can also lead to vascular dementia as these fatty deposits cause reduced blood flow to the brain which damages and eventually kills brain cells.

So what foods are highest in saturated fat and cholesterol? Animal source foods are typically the highest source of saturated fat and cholesterol in many people's diet. Dairy products and meat are very high in these unhealthy molecules and therefore high consumption of these foods can increase the risk of the dangerous diseases discussed above. Hence, cutting down on meat and dairy, or cutting it out completely, could potentially decrease the risk of these conditions.

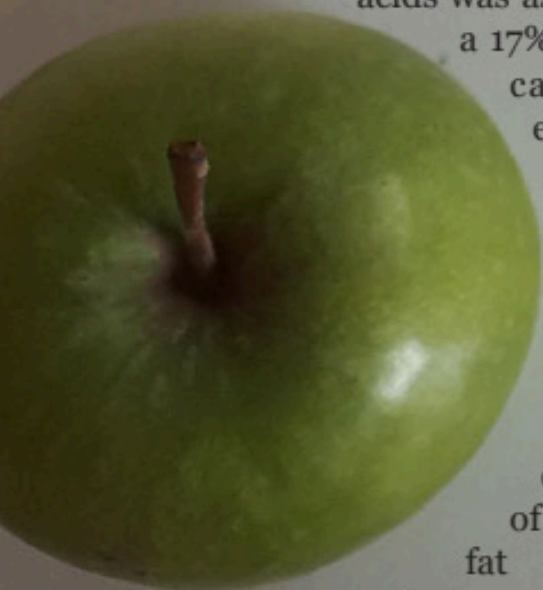
Furthermore, a diet high in saturated fat can lead to type 2 diabetes which is often a result of insulin resistance where the body does not respond properly to adequate levels of insulin. The cause of insulin resistance is not fully understood but many researchers argue that fat in the bloodstream can build up inside muscle cells and create toxic fatty breakdown products and free radicals that block the process that causes glucose to be absorbed into the cells. As a result, these intramyocellular lipids cause sugar levels in the blood to rise because glucose is prevented from being absorbed into the cells. Rates of diabetes have increased in parallel with obesity. In 2014, the number of people with diabetes was 422 million which has risen from 108 million in 1980 showing that diabetes is becoming a major healthcare

issue. Around 90% of people with diabetes have type 2 meaning that, as most cases of type 2 diabetes are preventable, most cases of diabetes are preventable. Cutting out meat and dairy would most likely lead to a diet lower in saturated fat and therefore decreases the risk of type 2 diabetes. In fact, only 2.9% of vegans have type 2 in contrast to the 7.6% of nonvegetarians with the condition. This is in correlation with the mean BMI of vegans which is 23.6 kg/m² and the mean BMI of nonvegetarians 28.8 kg/m². Consequently, following a vegan diet could prevent type 2 diabetes as vegans do not eat foods that are high in saturated fat.

In addition to the diseases that many people know are caused by poor diet, there are many chemicals in animal products that contribute to increasing the risk of many diseases. An example of this is the formation of heterocyclic amines in meat when cooked at high temperatures. They are formed when amino acids and creatine (a chemical found in muscles) react together. The US National Cancer Institute found a link between people with stomach cancer and the consumption of cooked meat. Furthermore, high intakes of well-done, fried, or barbecued meats is associated with colorectal, pancreatic and breast cancer. Studies have found that harmane has neurotoxic characteristics; it was found roughly 50% higher concentrations in patients with essential tremor than in controls. The World Health Organisation classes processed meat as a group 1 carcinogen due to the chemicals formed during meat process or cooking. Data from 10 studies estimated that every 50g portion of processed meat eaten daily increases risk of colorectal cancer. Another example of dangerous chemicals in our food is mercury in fish. Water sources are contaminated by mercury due to the burning of fossil fuels and many other industrial processes. It exists in fish as methylmercury, an organic form of the element, which is easily absorbed by organisms so the concentration of mercury increases at higher levels in the food chain; a process

called biomagnification. Mercury has been proven to damage the nervous system and is linked to increasing the risk of cardiovascular disease. How mercury damages the nervous system has not been proven but it could target developing nerves by inhibiting the growth of myelin hence mercury is particularly dangerous for fetuses and young children. It also reduces anti-oxidants when it accumulates in the heart which is especially a problem in adults. This can lead to cardiovascular disease as cells are more susceptible to damage so an atheroma is much more likely to form. Subsequently, fish is conceivably a dangerous food for both adults and children to eat.

As an aside, animal agriculture is no doubt one of the leading causes of air pollution as



it releases almost one-fifth of the world's greenhouse gas emissions. This is a huge topic for discussion on its own that again adds to the argument against meat consumption. How can we encourage people to reduce their meat and dairy intake? Why do we see adverts for crisps, chocolate and biscuits, but none for apples, oranges and bananas? Education is undoubtedly the key. If people become aware of the many health issues that could arise from high consumption of meat and dairy, they may be persuaded to eat alternative foods. Educating children in schools about food and nutrition should be encouraged to tackle obesity. A big step towards reduction of meat intake could be schools introducing "Meat Free Monday" and other such incentives. Children exposed to healthier diets at a young age might be more likely to continue to adopt this pattern of eating.

So is adopting a vegan diet the best diet for our health? Following a vegan diet may not be convenient for everyone. It can be expensive and as a result possibly an unsustainable diet for people who are on a budget. It is typical when shopping that a packet of chocolate biscuits can be half the price of 6 apples and therefore when purchasing snacks, it is obviously more tempting to buy the cheaper option. Many vegans use protein powder which can also be very expensive and therefore not a feasible way to get enough protein for people who have to manage their money carefully. Additionally, societal pressures mean that it could be a difficult diet to follow as we are constantly in environments where we are surrounded by meat eaters, and there are very few vegan options in restaurants if any at all. Vegan restaurants are typically much more expensive than other restaurants, further enforcing the fact that being vegan could be more expensive than an omnivorous diet. If not followed correctly, these problems of obesity and associated diseases could also

occur.

There

could

also be

a tendency to

eat convenient food

such as sharing sized

packets of crisps or chips fried

in tonnes of oil, which have high amounts of saturated fat and salt.

Not only can the saturated fat lead to disease, high levels of sodium in the blood can lead to high blood pressure

and as a result, heart disease, which

contradicts the whole point of going vegan

to reduce the risk of illness. Furthermore, an

inadequately followed vegan diet could lead

to nutrient deficiencies, such as a lack of iron

and calcium, which can lead to anaemia and

osteoporosis respectively. It is recommended

that vegans take a B12 supplement as this

vitamin is found mostly in meat and it is

difficult for a vegan diet to include B12. This

vitamin contributes to many processes in

the body including helping to make DNA

and red blood cells and a deficiency could

cause problems with the nervous system,

heart problems and psychological disorders

such as depression. Consequently, it is very

important for vegans to ensure that they get

an adequate amount. However, if a vegan diet

is comprehensively researched and followed

correctly, it is no doubt a far healthier diet. It

is easy to avoid saturated fat and cholesterol

which increase the risk of developing diseases

that are the leading cause of death in the

United Kingdom. Food for thought?

