The Ministry of Health of Ukraine

Zaporizhzhia State Medical University

Department of Foreign Languages

READING MEDICINE:

additional practice for 1st year students specializing in “Paediatrics – 228”

Zaporizhzhia

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R30

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R30 **Reading medicine: additional practice** for 1st year students specializing in “Paediatrics – 228” = Читаємо англійською: додаткова практика для студентів І курсу медичних факультетів спеціальності “Педіатрія – 228” / уклад. Л. В. Сазанович. – Запоріжжя, 2018. –81 с.

У практикумі підібрано тексти до реферування англійською мовою, тематика яких відповідає програмі викладання дисципліни «Іноземна мова» для студентів першого курсу закладів вищої освіти МОЗ України.

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ЗМІСТ

Список використаної літератури……

ПЕРЕДМОВА

Однією з основних цілей навчання іноземній мові у вищій школі є навчити студента читати тексти зі спеціальності, щоб отримати повноцінну інформацію та вміння обробити її (анотування, реферування та конспект). По закінченні курсу іноземної мови, студент повинен володіти професійно-орієнтованими навичками та вміннями, всіма видами наукової обробки тексту для самостійної роботи.

Навчальний посібник призначено для студентів першого курсу II медичного факультету, спеціальності 228 «Педіатрія», що цікавляться механізмами функціонування сучасної наукової мови та прагнуть сформувати й вдосконалити індивідуальну програму пізнавальної діяльності через самостійну роботу з різними джерелами наукової інформації.

Посібник складено відповідно до Стандарту вищої освіти України магістра галузі знань 22 «Охорона здоров'я»,спеціальності 228 «Педіатрія», за навчальним планом,затвердженим наказом МОЗ України «Про заходи щодо реалізації положень Болонської декларації у системі вищої медичної та фармацевтичної освіти» від 22.03. 04 №148 освітньої програми «Лікувальна справа».

Матеріал посібника містить зразки автентичних англомовних статей загально медичної тематики для перекладу та реферування англійською мовою. Головна увага приділена у посібнику організації самостійної роботи, що забезпечується запропонованими алгоритмічними приписами, які раціонально й оптимально скеровують мисленнєво-мовленнєву діяльність при опрацюванні різноманітних наукових джерел як з метою «згортання» їх змісту до рівня конспекту, анотації, реферату, так і для підготовки англійською мовою наукової доповіді, виступу в дискусії, статті. За такого підходу суттєво підвищується ефективність

інтелектуальної праці та забезпечуються перспективи самоосвіти у подальшому професійному зростанні.

Зміст практикуму складають *Передмова, Методичні рекомендації, Тексти для читання та реферування до Змістовного модулю ІІ та Список літератури*. Загальний обсяг практикуму складає ____ *сторінки*.

Розділ "Методичні рекомендації" присвячено визначенню особливостей реферування текстів наукового характеру англійською мовою, визначено композиції та типам рефератів. Також наведено мовні стандарти-кліше необхідні для реферування наукового джерела. Методичні рекомендації містять короткі плани та пам'ятки реферування тексту українською та англійською мовами.

У розділі "*Тексти для читання та реферування до Змістовного модулю ІІ" наведено 33* тексти наукової та науково-популярної направленості за програмою навчальної дисципліни "Іноземна мова":

У *Списку літератури* вказано інформаційні джерела використані під час роботи над практикумом.

Методичні рекомендації. Посібник розраховано на студентів І курсу, як завдання для підсумкового модуля та самостійної роботи за темами Модулю ІІ «Медичне обслуговування». Рівень складності текстів пропонується студенту викладачем. Порядок опрацювання текстів може бути послідовним або вільним залежно від планів та цілей викладача, що виходять з вимог навчальної програми: ввести, актуалізувати або проконтролювати засвоєння лексики за окремою темою модуля.

ОСОБЛИВОСТІ РЕФЕРУВАННЯ МЕДИЧНИХ ТЕКСТІВ АНГЛІЙСЬКОЮ МОВОЮ

Реферативне читання займає помітне місце поряд із вивчаючим (мета якого вичерпно передати зміст прочитаного) і ознайомлюваним (з метою зрозуміти основний зміст тексту) читанням. Головною метою реферативного читання є вибирання основної інформації тексту і відтворення його у письмовій формі (конспект, анотація, реферат, резюме).

Письмове реферування текстів відноситься до академічного письма, а саме до наукового стилю мови.

Мови розрізняються не тільки за будовою, але і за стилем. Так, науковий стиль української мови істотно відрізняється від англійської – він більш офіційний, неемоційний; для нього характерні розгорнуті способи вираження думки, оцінки. Він насичений віддієслівними іменниками, які утворюють довгі конструкції з родовим відмінком. У ньому є багато виразів і зворотів, які з погляду англійської мови зайві, надлишкові або занадто громіздкі і тому недоречні. (Порівн. *виходячи з вищезгаданого – that is why, з огляду на згадані вище факти – given that, можна зробити висновок – hence*).

Англійський науковий стиль мови порівнянні з українським, більш лаконічний, простий, емоційний і ближче до розмовного. Характер викладу більш динамічний, тому що дієслівні форми грають не меншу роль, ніж іменники. Тому правильний спосіб створення наукового тексту (чи то анотації, чи то статті) англійською мовою – це **не дослівний переклад**, не натяк буквальної відповідності, а **переказ, тобто вибір виразів і конструкцій**, які більш характерні для передачі даної думки англійською мовою. Прямий (буквальний) переклад може викликати

перенесення особливостей однієї мови в іншу мову. Зокрема, згадані вище номіналізації в англійському перекладі перетворюються в ланцюжки іменників, зв'язаних прийменником ***of*** – громіздкі конструкції, далекі від гарної англійської.

NB!

Щоб уникнути важких, нехарактерних для англійської мови конструкцій і серйозних змістових помилок, можна використати такі прийоми:

– розбивати довгі речення на більш прості;

– уникати складнопідрядних речень із сполучниковими словами *which, whose, that,* а з'єднувати речення за допомогою сполучників *when, where, then, but, and*;

– замінити віддієслівні іменники дієслівними формами і не вживати фрази типу "доцільність знаходження шляхів рішення завдань".

Приклад: *The patients were examined* (замість *Examination of the patients was carried out*).

Ще однією істотною відмінністю у будові англійської і української мови є **заперечення**. Досить згадати, що в українській мові часто зустрічаються конструкції з подвійним (або потрійним) запереченням: *Ніхто нічого не бачив*, тоді як в англійській мові вони заборонені граматичними правилами.

Нижче наводяться деякі українські вирази, що містять заперечення і не припускають дослівного перекладу на англійську мову.

Переклад заперечень *не бути виявленим*	*escape detection*
не виходити за межі	*stay within*
не надавати значення	*overlook*

не приймати всерйоз	*take lightly*
не поступатися (за якістю)	*be as good as*
не брати до уваги	*be discounted/disregarded*
не мати собі рівних	*be second to none/ be unrivalled/ be unparalleled*
не піддаватися впливу	*be immune to influence*
не вимагати роз'яснення	*require little comment*
не вимагати пояснення	*be self-explanatory*
не містити	*be free of*
не одержати відповіді	*be unanswered*
не викликати змін у …	*leave … unaltered*
не погоджуватися	*take issue with*
не дозволяти зробити висновок	*be inconclusive*
не перевищувати	*be less than*
не перебувати в експлуатації	*be out of commission*

Щоб **уникнути частого вживання прийменника *of*** при передачі ланцюжків віддієслівних іменників (що стоять в українській мові в родовому відмінку), можна користуватися декількома прийомами:

а) вживати іменники атрибутивно (тобто у функції означення): *Приклад: physicians group (замість a group of physicians);*

б) використати замість іменника герундій або інфінітив: *для побудови групи перетворень – to construct/for constructing the transformation group;*

в) пропустити слова, які є “зайвими”, тобто не мають основного значеннєвого навантаження: *випуск ліків вітчизняного виробництва – the output of domestic medicines (“зайве” слово виробництво);*

г) замінити прийменник *of* там, де це можливо, на інший, більш вузький за значенням, наприклад, *for* або *in*: *зменшення обсягу виробництва – decrease in volumes of production; причини підвищення рівня захворюванності – causes for increase of idence rates;*

д) використати присвійну форму іменника; *система охорони здоров’я країни – the country's health care system.*

Під час роботи з науковим текстом важливо, крім уміння стисло викласти зміст джерела інформації, уміти відобразити структуру тексту і хід думок автора, вказати на характер, методику і результати дослідження, тобто *реферувати* (від лат. refer – доповідати, повідомляти) текст.

Розрізняють такі основні **види рефератів**.

За повнотою викладення змісту реферати поділяються на **інформативні** (реферати-конспекти), що містять в узагальненому вигляді всі основні положення первинного документа, і **індикативні** (вказівні, або реферати-резюме), що містять лише основні положення, які тісно пов’язані з темою реферованого документа, все другорядне в індикативному рефераті випускається.

За кількістю реферованих первинних документів реферати поділяються на **монографічні**, складені за одним документом, і **оглядові** (або огляди), складені за кількома документами на одну тему.

За читацьким призначенням реферати поділяються на **загальні**, що викладають зміст документа в цілому і розраховані на широке коло читачів, і **спеціалізовані**, у яких викладеннння змісту зорієнтоване на фахівців певної галузі знань. Також виділяються реферати, складені авторами (**автореферати**), реферати, складені професіоналами референтами (у тому числі перекладачами-референтами).

Складання рефератів (*реферування*) являє собою процес аналітико-синтетичної переробки первинних документів з метою їх аналізу і вилучення необхідних відомостей. Цей процес завершується складанням реферату – вторинного документа, який дає скорочений виклад змісту первинного документа, методику дослідження і його результати, а також час і місце проведення дослідження. Реферуванню підлягає переважно наукова і технічна література, в якій міститься нова інформація, на інші види публікацій, як правило, складаються тільки анотації.

Написання реферату. Текст реферату складається, як правило, із трьох частин:

1) вхідної, що містить у собі вихідні дані і зазначення теми;
2) описової, яка містить у собі головну ідею і всі суттєві положення тексту;
3) заключної (підсумкової), яка містить аналіз деяких питань і загальний висновок до роботи в цілому.

Конкретна робота для написання реферату полягає в такому:

- унаслідок ознайомлюваного читання з'ясовується **загальний смисл** тексту і записується **вступ** із використанням певних лексичних засобів; під час повторного (вивчаючого) читання вибирається основна інформація тексту і проводиться її смисловий аналіз, унаслідок якого найважливіша інформація викладається повністю, а більш другорядна формулюється в скороченому вигляді;
- висловлюється й ґрунтується **особисте ставлення** до проблеми ;
- робиться загальний **висновок** про значення роботи, що реферується.

Записавши таким чином основні частини реферату, їх слід поєднати у зв'язний текст за допомогою певних **лексичних засобів**.

На відміну від описової анотації *реферативна анотація* виконує інформативну функцію. Вона не тільки називає тематику джерела інформації, але і частково, у рамках припустимого обсягу, викладає його

основну проблематику. За змістом реферативна анотація наближається до резюме, але відрізняється від нього більш стислою формою і схематизмом викладу, що досягається більш високим ступенем узагальнень.

Реферативна анотація має структуру, аналогічну описовій анотації. Але її описова і заключна частини містять більш розгорнуті положення. Обсяг становить приблизно 500 друкованих знаків.

Реферат (resume, review, summary) – це короткий виклад суті якого-небудь питання, наприклад, змісту книги, статті або патенту. Призначення реферату – знайомити читача зі змістом оригіналу і в такий спосіб заміщати його.

NB!

Тому текст реферату найчастіше складається з матеріалу оригіналу, тобто виділених з нього фрагментів, що становлять зв'язний текст.

Деякі ключові фрагменти запозичаються з оригіналу без змін, інші піддаються трансформації, тобто монтуються з окремих фраз, розкиданих по тексту. У зв'язку із цим, щоб забезпечити зв’язність нового тексту, необхідно використати ряд сполучних елементів, таких як:

Сполучні фрази *First(ly)*	*По-перше*
Second (ly)/then	*По-друге / потім*
Third (ly)/also	*По-третє / також*
Finally	*На закінчення*
Besides	*Крім того*
In addition	*На додаток*
Furthermore/moreover	*Більше того*
Therefore/so	*Тому, отже*

Thereby	*Таким чином, у зв'язку із цим*
That's why	*От чому*
However	*Однак*
Nevertheless	*Проте, однак*
On the one hand	*З одного боку*
On the other hand	*З іншого боку*
On the contrary	*Навпаки*
Similarly	*Аналогічно, подібним чином і т.п.*

За обсягом реферат завжди докладніше анотації, його розміри будуть залежати від розміру першоджерела і цілей реферату (реферат-конспект, резюме, оглядовий реферат).

Мовні трансформації під час написання реферату

При написанні реферату використовуються такі види язикової трансформації:

(1) компресія – передача тексту в коротшому вигляді;

(2) компенсація і перефразовування – заміна авторських засобів вираження більш короткими засобами вираження референта;

(3) узагальнення – відбір основної інформації при одночасному усуненні надлишкової.

NB!

На відміну від анотації, реферат повинен дати відповідь на питання: "Яка основна інформація міститься в документі?"

Він повинен дати читачеві об'єктивне уявлення про характер освітлюваної роботи, викласти її найбільш важливі моменти, дати повне уявлення про порушені в першоджерелі питання. За рефератом читач може судити про необхідність звернутися до оригіналу.

НАЙБІЛЬШ УЖИВАНІ ВИСЛОВИ
ДЛЯ РЕФЕРУВАННЯ ТЕКСТУ НАУКОВОГО ХАРАКТЕРУ
АНГЛІЙСЬКОЮ МОВОЮ

а) вступні фрази

1.	Ця стаття присвячена…	The article centers about (deals with; devotes considerable attention to; is oriented forward to …).
2.	Мені хотілося б підкреслити, що…	I would like to emphasize that … .
3.	Немає необхідності перераховувати всі…	There is no need to enumerate all … .
4.	Я вважаю за потрібне підкреслити, що …	I find it necessary to emphasize that …
5.	У цьому зв'язку особливу увагу слід приділити …	In this connection particular importance should be attached to …. .
6.	З урахуванням згаданої вище проблеми…	With regard to the problem mentioned … .
7.	Цей приклад чітко демонструє …	This example clearly shows … .
8.	Викладені вище принципи повністю відповідають ….	The principles stated above fully correspond to … .
9.	Резюме можна викласти в двох зауваженнях загального характеру	The resume can be stated in two general observations … .
10.	Ці спостереження мають важливе значення в …	These observations are of great significance in … .
11.	Отже, я можу зробити висновок …	Thus I dare to conclude … .
12.	Головне питання, котре поки що не вирішено …	The main question not yet solved is … .
13.	Нарешті мені хотілося б сказати, що …	Lastly I'd like to say that … .
14.	Очевидно, важливо зробити висновок …	It may be important to conclude … .

б) зв'язувальні та узагальнюючі фрази:

1.	Взагалі ...	In general …
2.	Що стосується ...	With regard to (as to) …
3.	Це доводить, що ...	It proves that …

4.	Немає необхідності говорити	Needless to say …
5.	Певною мірою ...	To some extent …
6.	Більше того ...	What is more …
7.	Наскільки це стосується даної проблеми ...	As far as this problem is concerned …
8.	З точки зору ...	From the point of view of …
9.	Я вважаю, що ...	I consider that …
10.	Слід підкреслити ...	It must be stressed …
11.	Стосовно цієї проблеми ...	Touching upon this problem …
12.	Що стосується цього питання ...	As to this question …
13.	Щоб отримати найбільш глибоке уявлення про ...	To gain a deeper insight into …
14.	Ось чому необхідно ...	That is why it is imperative to …
15.	Важливо відмітити, що ...	It is of importance to note …
16.	По-перше (по-друге, по-третє)	First (secondly, thirdly) …
17.	Нарешті ...	Finally …
18.	Хочу зробити висновок ...	I dare to conclude …
19.	Перш за все ...	Above all …
20.	Так (таким чином) ...	Thus (therefore) …
21.	Крім того (до того ж) ...	Furthermore …
22.	Тому ...	Therefore …
23.	Більш того ...	Moreover (over and above) …
24.	Проте ...	However …
25.	Хоча ...	Though …
26.	Суттєво ...	Essentially …
27.	Тим не менш ...	Nevertheless …
28.	Порівняно з ...	Compared with …
29.	Звідси ...	Hence …
30.	Враховуючи це ...	On this account …
31.	Ось чому ...	That is why …
32.	В цілому ...	On the whole …

в) комбінаторні вислови:

1.	Ця стаття / уривок проаналізувала макроекономічні дані	This chapter / abstract has examined macroeconomics data

	Європи	for Europe
2.	Акцент зроблений на …	The emphasis has been placed on …
3.	В результаті аналіз автора загалом відображає останні інтерпретації …	In the outcome, the author's analysis generally rejects the recent interpretations of …
4.	Запропоновані деякі шляхи, які дозволяють переформулювати підходи більш переконливо …	It has been suggested some ways in which the approaches might be reformulated more persuasively
5.	Загалом я вважаю, що це пояснює Європейський ріст післявоєнного періоду лише незначною мірою …	In general I find that this explains the patterns of post-war European growth to only a limited degree
6.	Хоч я погоджуюсь з акцентом, пріоритетним у цьому підході … я більш прихильний до теорії, що базується на …	Although I happen to agree with the focus explicit in this approach … I find greater support for the theory based on …
7.	Уривок статті розвиває попередній погляд на проблему …	The abstract develops the earlier view on the problem of …
8.	Автор намагався проаналізувати зростання ринку, розділяючи погляд окремо на валову продукцію та сектор хімічних товарів	The author has attempted to analyse the development of the market by looking separately at the bulk or commodity chemicals sector …
9.	У цій статті автор запропонував підхід, в якому акцент інноваційної діяльності змістився з … на …	In this article the author has mapped the way in which the focus of innovative activity has shifted from … to …
10.	Робота, представлена в цій статті, дає підстави вважати, що …	The work surveyed in this article gives good grounds for believing that …
11.	Підсумовуючи, зазначимо, що політика розбіжностей, описана в цій статті, відображає відмінності в поглядах з декількох ключових питань …	To summarise, the policy disagreements described here reflect differences in judgement on several key questions …

1. Tibetan Medicine History

The Tibetan medical system is one of the world's oldest known medical traditions. It is an integral part of Tibetan culture and has been developed through many centuries. We believe that the origin of the Tibetan medical tradition is as old as civilization itself.

Because humankind has depended on nature for sustenance and survival, the instinctive urge to health and accumulated knowledge has guided us to discover certain remedies for common ailments from natural sources. For example, applying residual barley from chang (Tibetan wine) on swollen body parts, drinking hot water for indigestion, and using melted butter for bleeding are some of the therapies that arose from practical experiences and gradually formed the basis for the art of healing in Tibet. The Tibetan medical heritage is based on the book of the Four Tantras , which remains the fundamental medical text even today.

The era from the beginning of human civilization to the advent of Buddhism in Tibet, can be termed as the pre-Buddhist era. During that time Bon tradition flourished in Tibet and Bon medical practice influenced and enriched the existing Tibetan Medical knowledge and practice. It has been clearly mentioned in a Bon text titled “Jam-ma tsa-drel” that around 200 B.C., there lived twelve scholars of Bon tradition including a medical scholar who treated diseases through medication and therapy. This indicates that Tibetans practiced medicine and there were Tibetan physicians even prior to the advent of Buddhism in Tibet.

From:http://www.men-tsee-khang.org/tibmed/tibhistory.htm

2. Ancient Egyptian Medicine

The Ancient Egyptians have provided modern historians with a great deal of knowledge and evidence about their attitude towards medicine and the medical knowledge that they had. This evidence has come from the numerous papyruses found in archaeological searches.

Like prehistoric man, some of the beliefs of the Egyptians were based on myths and legend. However, their knowledge was also based on an increasing knowledge of the human anatomy and plain common sense.

In Ancient Egypt, the treatment of illnesses was no longer carried out only by magicians and medicine men. We have evidence that people existed who were referred to physicians and doctors.

When there was no obvious reason for an illness, many Ancient Egypt doctors and priests believed that disease was caused by spiritual beings. When no-one could explain why someone had a disease, spells and magical potions were used to drive out the spirits.

the Ancient Egyptians also developed their knowledge as a result of education. Ancient papyrus inform us that the Ancient Egyptians were discovering things about how the human body worked and they knew that the heart, pulse rates, blood and air were important to the workings of the human body. A heart that beat feebly told doctors that the patient had problems.

By C.N. Trueman "Ancient Egyptian Medicine"

On 17 Mar 2015. 16 Aug 2016.

From: The History Learning Site historylearningsite.co.uk.

3. Medicine in Ancient Rome

The Ancient Romans made a huge input into medicine and health, though their input was mainly concerned with public health schemes. The Romans learned a great deal from the Ancient Greeks. They used the ideas of the Greeks but they did not simply copy them.

In the early years of the Roman Empire there were no people in what would be a separate medical profession. It was believed that each head of the household knew enough about herbal cures and medicine to treat illnesses in his household. As the Roman Empire expanded into Greece, many Greek doctors came to Italy and Rome. Despite the fact that some of Greek physicians were prisoners of war, they had the support of the emperors and were highly popular with the Roman public.

The Romans were great believers in a healthy mind equaling a healthy body. There was a belief that if you kept fit, you would be more able to combat an illness. Rather than spend money on a doctor, many Romans spent money on keeping fit.

The Romans did believe that illnesses had a natural cause and that bad health could be caused by bad water and sewage. Hence their desire to improve the public health system in the Roman Empire so that everyone in their empire benefited. Those who worked for the Romans needed good health as did their soldiers. In this sense, the Romans were the first civilization to introduce a programme of public health for everyone regardless of wealth.

By C.N. Trueman "Medicine in Ancient Rome"

On 17 Mar 2015. 16 Aug 2016

From: The History Learning Site historylearningsite.co.uk.

4. Hippocrates

Hippocrates made such an impression on medical history that his name is still very much associated with medicine today. All newly qualified doctors take what is called the ‘Hippocratic Oath’ and some see Hippocrates as the father of modern medicine even though he did most of his work some 430 years before the birth of Christ.

Greek doctors had started to look at the issue of poor health and disease by using a process of reasoning and observation.

Ancient Greek medical knowledge is demonstrated in what is known as the Hippocratic Collection. This is a collection of sixty medical books of which Hippocrates wrote just some. We do not know who wrote most of them but they cover a time span of 150 years so they could not have all been written by Hippocrates.

Hippocrates and other Greek doctors believed that the work done by a doctor should be kept separate from the work done by a priest. They believed that observation of a patient was a vital aspect of medical care. Ancient Greek doctors did examine their patients but Hippocrates wanted a more systematic period of observation and the recording of what was observed. Today, we would call this ‘clinical observation’. Such ideas have led to Hippocrates being called the ‘Father of Medicine’.

By C.N. Trueman "Medicine in Ancient Rome"

On 17 Mar 2015. 16 Aug 2016

From: The History Learning Site historylearningsite.co.uk.

5. The Beginnings of Medicine in Ukraine

The history of medicine in Ukraine begins with the history of folk medicine. The origin of Ukrainian medicine may be traced back to the folk medicine of the Kyiv Ukraine-Rus epoch. It developed as a monastery medicine and medicine of the Cossacks state. The first medical hospitals in Kyiv Rus were founded in the 11-th century and were mostly in the form of alms houses attached to churches.

In 1653 in the city of Zamostya (near Lviv) Zamostya's academy was organized under the initiative of graph Yan Zamoyskyi. The relation between Zamostya's academy and Padua University was very strong during many years. The academy was existing only for 190 years. But it played a positive role in the dissemination of scientific medical knowledge among the population.

Some graduates of the academy, especially Ukrainians and Byelorussians went on a service to the feudal lords. Some graduates continued their education at the universities of Italy where they received a degree of the doctor of medicine.

From: http://intranet.tdmu.edu.ua/data/kafedra/internal/sus_dusct/classes_stud/en/stomat/ptn/history%20of%20medicine/1/02.%20History%20of%20Ukrainian%20medicine.htm

6. Medical assistance in the army of Bogdan Khmelnitsky

At the end of the XVI century the main Kossacks hospital was the hospital in Trahtemyrivskyi monastery below the Dnieper. Military hospitals were in monasteries: Lebedinsky near Chyhyryn and Levkovsky near Ovruch. Monasteries willingly took care over the Cossacks. In Cossack hospitals, opposed to civilians in towns and villages, the disabled found refuge as well as

treatment the wounded was practiced. Those were the first military hospitals in Ukraine.

Cossacks medicine is very interesting too. Their practice of medicine is full of mysteries and legends. Pauline, thyme, mint, borschivnyk were the main components of content of Kossack pipe. That is why Cossacks almost newer were sick with asthma and bronchitis. Moreover smoking was able to reduce pressure, calm nerves, improve appetite, sleep and even eyesight. Vitamins and other necessary substances lacking in conventional food Cossacks received in this form.

From: http://intranet.tdmu.edu.ua/data/kafedra/internal/sus_dusct/classes_stud/en/stomat/ptn/history%20of%20medicine/1/02.%20History%20of%20Ukrainian%20medicine.htm

7. Kyiv-Mohyla academy

Kyiv-Mohyla academy played a significant role in the training of medical professionals alongside with organization of hospital's medical schools. The Academy was first opened in 1615 as the Kyiv Brotherhood School.

In 1632 the Kyiv Pechersk Lavra school and Kyiv Brotherhood School merged into the Kyiv-Mohyla Collegium (Latin: Collegium Kiyovense Mohileanum). The Collegium was named after Petro Mohyla.

Among the famous graduates of the Kyiv-Mohyla Academy, there are names of Peter Doroshenko, Philip Orlik, Yuri Khmelnitsky, Paul Teterya, Gregory Skovoroda, Ivan Skoropadskyi, Ivan Mazepa etc.

Many graduates of the Academy continued to enrich their knowledge abroad and received their doctors' degrees there. Many former students of this Academy have become the well-known scientists. They are the epidemiologist D. S. Samoilovych, the obstetrician N. M. Ambodyk-Maximovych, the podiatrist S. F. Chotovytsky, the anatomist O. Shumlyansky and many others.

From: http://intranet.tdmu.edu.ua/data/kafedra/internal/sus_dusct/classes_stud/en/stomat/ptn/history%20of%20medicine/1/02.%20History%20of%20Ukrainian%20medicine.htm

8. Mickola Ivanovich Pirogov

Mickola Ivanovich Pirogov (25 November 1810 – 5 December 1881) is considered to be the founder of field surgery, and was one of the first surgeons in Europe to use ether and anaesthetic. He was the first surgeon to use anaesthesia in a field operation (1847), invented various kinds of surgical operations, and developed his own technique of using plaster casts to treat fractured bones. He is one of the most widely recognized Russian-Ukrainian physicians.

In October 1840, Pirogov took up an appointment as professor of surgery at the academy of military medicine in Saint Petersburg, and undertook three years of military service in this period. He first used ether and anaesthetic in 1847, and investigated cholera from 1848. Around this time he compiled his anatomical atlas, Topographical anatomy of the human body (vol. 1–4, 1851–1854).

He worked as an army surgeon in the Crimean War, 1854. From his works in the Crimea, he is considered to be the father of field surgery. He followed work by Loui-Joseph Seutin in introducing plaster casts for setting broken bones, and developed a new osteoplastic method for amputation of the foot, known as the

"Pirogov amputation". He was also the first to use anaesthetics in the field, particularly during the siege of Sevastopol, and he introduced a system of triage into five categories. He encouraged female volunteers as an organised corps of nurses.

From: https://en.wikipedia.org/wiki/Nikolay_Pirogov

9. Edward Jenner

Edward Jenner's great gift to the world was his vaccination for smallpox. This disease was greatly feared at the time as it killed one in three of those who caught it and badly disfigured those who were lucky enough to survive catching it.

Edward Jenner was a country doctor who had studied nature and his natural surroundings since childhood. He had always been fascinated by the rural old wives tale that milkmaids could not get smallpox. He believed that there was a connection between the fact that milkmaids only got a weak version of smallpox but did not get smallpox itself. A milkmaid who caught cowpox got blisters on her hands and Jenner concluded that it must be the pus in the blisters that somehow protected the milkmaids.

Jenner decided to try out a theory he had developed. A young boy called James Phipps would be his guinea pig. He took some pus from cowpox blisters found on the hand of a milkmaid. Jenner 'injected' some of the pus into James. This process he repeated over a number of days gradually increasing the amount of pus he put into the boy. He then deliberately injected Phipps with smallpox. James became ill but after a few days made a full recovery with no side effects. It seemed that Jenner had made a brilliant discovery.

Jenner did not patent his discovery as it would have made the vaccination more expensive and out of the reach of many. It was his gift to the world.

By C.N. Trueman "Edward Jenner"

On 17 Mar 2015. 16 Aug 2016.

From: The History Learning Site historylearningsite.co.uk.

10. Smallpox and London

In a crowded city like London a disease like smallpox was bound to spread. With little medical treatment available to the poor, it was this social group that suffered the most. Edward Jenner had not patented his discovery of a vaccination, but medical help had still to be paid for. This severely restricted the number of those who could be treated for smallpox and it hit hard those in dirty tenements found in London's East End.

Smallpox was a major killer before Edward Jenner's vaccination that was to change medical history. The impact of Jenner's vaccination can be seen in its impact in London in 1844 where 10,316 citizens died of smallpox during a single year.

It took many years to eradicate smallpox finally from Britain as medical treatment was far too expensive for the poor. The irony is that Jenner gave his prevention to the world for free rather than patent it for himself, though doctors could charge their patients for services rendered.

By C.N. Trueman "Smallpox And London"

On 17 Mar 2015. 16 Aug 2016.

From: The History Learning Site historylearningsite.co.uk.

11. The Institute Of Human Clinical Pathology at ZSMU

The Institute of Human Clinical Pathology in Zaporizhzhia Medical University was established in 2003. This subdivision brings together qualified research assistants of the Department of Pathologic Anatomy and Forensic Medicine with Bases of Law and Zaporizhzhia regional bureau of morbid anatomy.

The Institute houses five main laboratories: Molecular Immunohistochemistry, Laboratory of Morphometric and Densitometric Measurements, Electronic Microscopy and Computer Morphometry of Submicroscopic Structures, Histochemical and Neuromorphological Laboratory, Intraoperative Express Diagnostics.

Modern high-tech equipment is used for molecular-cellular, physical-chemical, densitometric, imunohistochemical, histopathological, electronic microscopic and computer-morphometric studies.

The main objectives of the Institute are to develop and introduce new technologies of morphological life-time diagnostics of human diseases at early stages: inflammatory, tumorous and tumour-like diseases, hepatitis and hepatic cirrhosis, glomerulonephritis and nephropathy, surgical pathology of hepato-biliary and pancreatic-duodenal systems, infectious and autoimmune thyroiditis, cancer, diffuse and nodular hyperplasia of thyroid gland, gastritis, peptic ulcer, benign and malignant tumors of the stomach and intestines, dyshormonal, inflammatory, tumor-like and tumorous diseases of genitals and rapid Diagnostics of pregnancy pathology as well.

It is difficult to overestimate the importance of another trend of the Institute's activities – determining the adaptability of donor's kidney transplants and morphological monitoring of transplants' condition in patients in the postoperative period.

From: Запорізький державний медичний університет. - Запоріжжя, Дике Поле, 2015. - 256с. - С.159-163.

12. Science at ZSMU

Fifteen original research schools founded at the Medical University in the field of basic research, clinical medicine and pharmacy are highly respected in the scientific community of Ukraine and abroad. And they surely deserve the recognition.

Zaporizhzhia School of Trasplantology was founded on the basis of the Department of Hospital Surgery and the Regional Hospital. The recognition in the scientific community worldwide is due to the accumulation of a significant experience in the field of organs and tissues transplantation. The Transplantation Center founded on its base is proud of the national status. The Center's staff performs successful kidneys transplantations. It was the Center where the first surgery for a liver transplantation was performed in the CIS, and the first in Ukraine successful heart transplantation followed in 2003.

The Center for Cardiovascular Surgery is one more division affiliated at the clinical Departments of the University that has the national status. Today, at the Center for Cardiovascular Surgery, patients with congenital and acquired heart diseases undergo the operations of artificial heart valves implantation. Patients with ischemic heart disease undergo coronary angiography, coronary artery stenting, coronary artery bypass surgery, pacemaker implantation; selective

thrombolys is performed for patients with pulmonary embolism, as well as reconstructive surgery on vessels in aortic aneurysm and stenosis of brachiocephalic arteries.

The scientists-traumatologists of the University along with JSC “Motor Sich“ fullfilled a unique innovative project: “Development and implementation of the first native endoprosthesis of knee joint “Motor Sich EPK-1“, which meets international quality standards and has a lower cost than its foreign counterparts. Today, condylar endoprostheses are implanted to patients not only in Ukraine but in Russia too. In 2008, the development of technology and the introduction of condylar endoprosthesis and a set of instruments for its implanting in production gained gold medal in the IX Moscow International Forum “High Technologies of XXI century“.

From: Запорізький державний медичний університет. - Запоріжжя, Дике Поле, 2015. - 256с. - С.178-181.

13. What is Preventive Medicine

The aim of preventive medicine is the absence of disease, either by preventing the occurrence of a disease or by halting a disease and averting resulting complications after its onset. Preventive medicine can be practised by governmental agencies, primary care physicians and the individual himself.

In the past, many diseases have been conquered by doing things for the individual. The present challenge of preventive medicine is to motivate the individual to practise his own prevention. Possible means of achieving this motivation are described and many require the active participation of the primary care physician.

By E.A. Clarce

On November, 1974

From: Official publication of the College of Family Physicians in Canada
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2274388/

14. Preventive Medicine

Preventive medicine is practiced by all physicians to keep their patients healthy. It is also a unique medical specialty recognized by the American Board of Medical Specialties (ABMS). Preventive medicine focuses on the health of individuals, communities, and defined populations. Its goal is to protect, promote, and maintain health and well-being and to prevent disease, disability, and death.

Preventive medicine specialists are licensed medical doctors (MD) or doctors of osteopathy (DO), who possess core competencies in biostatistics, epidemiology, environmental and occupational medicine, planning and evaluation of health services, management of healthcare organizations, research into causes of disease and injury in population groups, and the practice of prevention in clinical medicine. They apply knowledge and skills gained from the medical, social, economic, and behavioral sciences.

Preventive medicine has three specialty areas with common core knowledge, skills, and competencies that emphasize different populations, environments, or practice settings: aerospace medicine, occupational medicine, and public health and general preventive medicine. ACPM members generally focus on public health and general preventive medicine, but many of our members are double or triple board-certified in multiple specialty areas.

By American College of preventive Medicine
From: MedicalNewsToday *http://www.acpm.org/?page=preventivemedicine*

15. Preventive Medicine Specialists

Aerospace medicine focuses on the clinical care, research, and operational support of the health, safety, and performance of crewmembers and passengers of air and space vehicles, together with the support personnel who assist operation of such vehicles. This population often works and lives in remote, isolated, extreme, or enclosed environments under conditions of physical and psychological stress. Practitioners strive for an optimal human-machine match in occupational settings rich with environmental hazards and engineering countermeasures.

Occupational medicine focuses on the health of workers, including the ability to perform work; the physical, chemical, biological, and social environments of the workplace; and the health outcomes of environmental exposures. Practitioners in this field address the promotion of health in the work place, and the prevention and management of occupational and environmental injury, illness, and disability.

Public health and general preventive medicine focuses on promoting health, preventing disease, and managing the health of communities and defined populations. These practitioners combine population-based public health skills with knowledge of primary, secondary, and tertiary prevention-oriented clinical practice in a wide variety of settings.

By American College of Preventive Medicine

From: MedicalNewsToday *http://www.acpm.org/?page=preventivemedicine*

16. At the Chemist’s

Chemist's shop is an institution of health service which supplies the population with medicines and medical things. It is a place where a wide variety of articles is sold and prescription can be made; drugs are composed, dispensed, stored and sold. An ordinary chemist's shop has a chemist's department, a prescription one, proper working rooms and a hall for visitors.

At the chemist's department one can buy drugs ready to use, different things for medical care and medical herbs.

At the chemist's all medicines are kept in drug cabinets, open shelves and refrigerators. Poisonous, drastic, narcotic and psychotropic drugs can be sold by prescription only. These drugs are potent and can be dangerous, their use must be strictly controlled.

All containers of dispensed medicines should be clearly labeled with the following particulars: name of the patient, name of the medicine, correct dosage instructions, date of dispensing, expiry date, warnings or contradictions, name and address of the pharmacy.

The pharmacist should instruct the patient about: the necessity to follow the prescribed directions carefully; the dangers of overdosage; the problems resulting from an inadequate dosage; the expected side effects of the drug; the proper storage of the drug, etc. The pharmacist should also advise the patient about the dangers of taking drugs for longer periods unless he is under care of a physician.

A complete prescription is made up of six essential parts: the patient's name, the superscription, the inscription, the subscription, the signature and the

prescriber's name. The superscription is the traditional symbol Rx, which always appears at the beginning of the prescription. The inscription is the body of the prescription. This contains the ingredients and quantities of each. In the complex prescription containing multiple ingredients, the inscription may consist of three parts: medication, adjuvant and vehicle. The subscription always follows the inscription and contains the writer's instructions to the pharmacist. This designates the form of preparation (mixture, tablets, ointment, etc.), the strength in words and figures) and the quantity of total number (in words and figures. The signature consists of the directions to be given to the patient. This information is intended to be placed on the label of the container in which the medication is dispensed. The prescriber's name is the part of the prescription that guarantees its authenticity.

17. Prescription

A prescription is an order that is written by you, the physician (or medical student with signature by a physician) to tell the pharmacist what medication you want your patient to take. A written prescription is a legal document that should be prepared with care. While there are some variations from state to state, the prescription basically has 10 parts. The basic format of a prescription includes the patient's name and another patient identifier, usually the date of birth. It also includes the meat of the prescription, which contains the medication and strength, the amount to be taken, the route by which it is to be taken and the frequency. Often times, for “as needed” medications, there is a symptom included for when it is to be taken. The prescriber also writes how much should be given, and how many refills. Once completed with a signature and any other physician identifiers like NPI number or DEA number, the prescription is taken to the pharmacist who interprets what is written and

prepares the medication for the patient. This information can be used a guide, but make sure you know the requirements in your own state or country. Also, be aware of the different requirements for prescriptions for controlled substances vs. non-controlled substances.

From: Medical School Headquarters

http://medicalschoolhq.net/prescription-writing-101/

18. The Medical Examination: General Ideas

It is performed by a General Practitioner (GP) and generally takes 30-60 minutes to complete. It may be conducted in a Medical Clinic, or at the applicant's home or workplace depending on location and availability of qualified personnel.

Procedure

The Medical Examination has 2 parts: medical questionnaire (your medical history and that of your immediate family) and physical examination.

During the physical examination, measurements will be taken of the applicant including: height; weight; blood pressure; chest and abdomen.

Preparation

A urine sample will also be required at the time of the examination. Applicants will need to drink at least two glasses of water prior to their appointment, to ensure they are well hydrated. Urine is tested for Blood, Sugar and Protein.

From: Lifescreen Australia

http://www.lifescreen.com.au/for-insurance-companies/health-assessments/medical-examination-(gp).aspx

19.The Medical Examination: Express Check

An express check is performed by a Registered Nurse and generally takes about 15 minutes to complete. It may be conducted in a Medical Clinic, or at the applicant's home or workplace depending on location and availability of qualified Lifescreen personnel.

An Express Check is a quick snap shot of the applicant's current health status. It involves: measurements of height, weight, blood pressure, pulse and a urine test; a few questions about medications being taken and visits to any doctor. It may take a little longer if the blood pressure needs to be taken more than once. It may be accompanied by pathology (blood tests) which are normally done at the same time.

Before an Express Check applicants will need to drink at least two glasses of water prior to their appointment, to ensure they are well hydrated.

From: Lifescreen Australia

http://www.lifescreen.com.au/for-insurance-companies/health-assessments/medical-examination-(gp).aspx

20. A Paramedical Examination

A Paramedical Examination is performed by a Registered Nurse and generally takes about 30-45 minutes to complete. It may be conducted in a Medical Clinic, or at the applicant's home or workplace depending on location and availability of qualified Lifescreen personnel.

The Procedure of a A Paramedical Examination has 2 parts: medical questionnaire (medical history of applicant and immediate family) and physical examination.

During the physical examination, measurements will be taken of the applicant including: height; weight; blood pressure; chest and abdomen.

Before a Paramedical Examination a urine sample will also be required at the time of the examination. Clients will need to drink at least two glasses of water prior to the appointment to ensure they are well hydrated. Urine is tested for Blood, Sugar and Protein.

From: Lifescreen Australia

http://www.lifescreen.com.au/for-insurance-companies/health-assessments

21. Introduction to Full Physical Examinations

A full physical examination is a general examination of the body performed by the doctor or general practitioner (GP). The examination will cover most of the basic systems of the body, including the heart system, lung system, gut system and nerve system examination. Additional examination can be added depending on the clinical scenarios. The purposes of a full physical examination is to confirm any present issues after the clinical history; and to find possible pathologies that are present but yet to be known about.

Clinical history and physical examination are the essential part of medicine since Western medicine was established centuries ago. However with the advance of technological investigations, many diseases are diagnosed with blood tests and imaging studies. Many diseases are diagnosed earlier using modern technology where previously physical examination could find nothing, for example prostate cancer, colon cancer, etc.

Yet quoting the Medical Journal of Australia Editorials, on “Physical examination: bewitched, bothered and bewildered”, it states that: “Together

with the history, physical examination is the doctor's best kept secret – powerful, portable, fast, cheap, durable, reproducible and fun … We recommend a thorough check-up. Preferably by a doctor who takes the time to look, listen, even touch." This shows how important physical examination is in medical practice.

From: Virtual Medical Center

https://www.myvmc.com/investigations/full-physical-examination-a-check-up/

22. Making a Diagnosis in Primary Care: Symptoms and Context

Diagnosis can be difficult. It is especially difficult in primary care where serious diseases, such as cancer or heart disease, are rare, there is a greater reliance on symptoms, and general practitioners (GPs) are constantly bombarded with guidelines that ignore the primary care context.

The positive predictive value (that is, the probability that the disease is present if the patient has a symptom or a positive test result) often makes the most intuitive sense to clinicians and yet is a constant source of misunderstanding between GPs and our secondary care colleagues. It is imperative to be aware that the predictive value is affected by the prevalence: as the prevalence falls, the number of false positives tends to increase, resulting in a lowering of the positive predictive value. The effect of prevalence can also be readily understood in relation to the odds ratio version of Bayes' theorem: posterior odds = likelihood ratio × prior odds.

By Nick Summerton

On August 2004

From: British Journal of General Practice

22. Dealing With Uncertainty in General Practice

Many patients attending general practice do not have an obvious diagnosis at presentation. Skills to deal with uncertainty are particularly important in general practice as undifferentiated and unorganized problems are a common challenge for general practitioners (GPs), therefore the management of uncertainty as an essential skill which should be included in educational programmes for both trainee and established GPs. Philosophers, psychologists and sociologists use different approaches to the conceptualization of managing uncertainty. The literature on dealing with uncertainty focuses largely on identifying relevant evidence and decision making. Existing models of the consultation should be improved in order to understand consultations involving uncertainty. An alternative approach focusing on shared decision making and understanding the consultation from the patient's perspective is suggested. A good doctor–patient relationship is vital, creating trust and mutual respect, developed over time with good communication skills. Evidence-based medicine should be used, including discussion of probabilities where available. Trainers need to be aware of their own use of heuristics as they act as role models for trainees. Expression of feelings by trainees should be encouraged and acknowledged by trainers as a useful tool in dealing with uncertainty. Skills to deal with uncertainty should be regarded as quality improvement tools and included in educational programmes involving both trainee and established GPs.

From: Quality in Primary Care

http://primarycare.imedpub.com/dealing-with-uncertainty-in-general-practice-an-essential-skill-for-the-general-practitioner.php?aid=640

23. What to Expect During an Orthopedic Evaluation

An orthopedic evaluation is an exam that gives your surgeon the information they need to recommend the best pain-relieving procedures for you.

Orthopedic surgeons perform thorough orthopedic evaluations when determining the most appropriate form of treatment for your musculoskeletal condition or injury. These evaluations provide your surgeon with the information they need to create a comprehensive treatment plan.

Medical History Exam. Be as specific as possible when describing your pain. Use details such as where you feel pain, what type of pain you have, how often it hurts, how severe your pain is, and whether or not pain is preventing you from enjoying daily activities. You should also describe any past injuries that could be contributing to your pain. Let your surgeon know about any other chronic pain you deal with, even if it seems unrelated.

Your orthopedic evaluation will cover your complete medical history, including any underlying medical conditions such as arthritis or diabetes. Keeping this information up-to-date and accurate helps lower your risk of complications from conflicting conditions or medications. Be sure to notify your orthopedic surgeon of all the medications you take and any allergies you may have to medications or substances like latex.

From: Arkansas http://www.arksurgicalhospital.com/ what-to-expect-during-an-orthopedic-evaluation/surgical Hospital

24. Orthopedic Evaluation: Tests

Physical tests. To fully evaluate your condition, your orthopedic surgeon will most likely conduct a few physical tests. These tests are meant to check your flexibility, range of motion, and reflexes. Your surgeon will also check the

affected area for swelling and visible symptoms of a condition. Visible lumps, asymmetrical swelling, bulges in your spine, and mottled or bruised skin can all be indications of an orthopedic condition.

Your orthopedic surgeon may have you bend, walk, move up and down stairs, and sit down to test your range of motion. Watching your body's ability to perform movements helps your doctor evaluate your flexibility, as well as narrow down the list of potential conditions,for a more accurate diagnosis/.

Imaging Tests. If your orthopedic surgeon needs more in-depth information on the affected area, they might order imaging tests, such as X-rays or magnetic resonance imaging (MRI). These tests provide your surgeon with detailed images and information on your condition and help them spot any signs of swelling, infection, or displacement.

Keep in mind that your surgeon might need to test more than the area that is causing you pain. For example, shoulder pain can be caused by by musculoskeletal problems in your upper spine or neck, while hip pain is sometimes caused by problems with your lower part of the spine.
After your orthopedic evaluation is complete, your surgeon will discuss your treatment options with you based on your medical history exam and the results of physical and imaging tests.

From: Arkansas http://www.arksurgicalhospital.com/
what-to-expect-during-an-orthopedic-evaluation/surgical Hospital

25. Preoperative Physical Exam

A preoperative physical exam can help a doctor better understand the condition of a patient about to undergo surgery. For example, if the pre-op physical exam

shows that the person has an underlying kidney or heart condition, the doctors will need to take additional measures to ensure the patient makes it through the surgery safely. In addition, certain conditions might require special post-op care or prolong the stay at the hospital, so doctors need to be prepared for this as well.

All pre-op exams start with a basic health check where a nurse will write down your medical history and ask questions about your health, medical conditions, and any medications you might be taking. After that, the doctor will order a full blood panel to check your white and red blood cells. This will determine whether you're anemic (which can increase your risks during surgery) and the condition of your immune system (which can affect your recovery time).

On August 14

From: Physicians Now. Urgent Care

https://myphysiciansnow.com/types-of-tests-in-a-preoperative-physical-exam/

26. Preoperative Physical Exam: Tests

A preoperative physical exam can help a doctor better understand the condition of a patient about to undergo surgery.

Specialized Tests. Doctors will order additional, specialized pre-op- tests when and if necessary. While this might seem inconvenient and could potentially lead to postponing your surgery, keep in mind it's all done to ensure your safety during the procedure.

For example, you might need a urine analysis if you have kidney problems or to check for the presence of an infection. If you are at risk for diabetes, your doctor could also request a glucose test. And if you have any type of blood disorder, such as blood clots, you might also need to see a hematologist to get additional feedback or recommendations on how to get through the surgery safely.

Plus, people with obstructive sleep apnea might need to get additional checks and tests to ensure that they won't have trouble breathing while under general anesthesia.

Certain types of surgery require their own tests. For example, if you're having stomach or colon surgery, your doctor might need you to undergo a colonoscopy before your surgery. Or, you may need a CT scan or an MRI scan. These are very specific tests that are directly connected to the type of surgery you're having, so not everybody will need them.

Whatever the type of tests you need ahead of your surgery, your doctor will identify them during your preoperative physical exam and make sure you're ready for the procedure.

From: Physicians Now. Urgent Care

https://myphysiciansnow.com/types-of-tests-in-a-preoperative-physical-exam/

27. What to expect at baby's first appointment

Baby's first 2-week well-visit appointment will come up quicker than you think. Most parents schedule this visit with a pediatrician either while in the hospital post-delivery or shortly after coming home. When scheduling, ask for an appointment during the least busy part of the office day or if the doctor has a certain part of the day or week dedicated to seeing newborns. Expect the visit to take about 25 minutes, but this can vary. Prepare for the possibility of a wait or setback and be sure to plan time to fill out paperwork.

At Baby's first doctor appointment, it's helpful to bring yourself, your baby, and another primary caregiver, such as Dad. With two people in the office, it will be

easier to take care of your little one, remember all of the information from the doctor, and recall what questions to ask. More than two people can become a distraction and make the doctor's office into a free-for-all for questions. The focus needs to be on Baby. It's normal to be nervous, but remember that this visit is meant to be both empowering and informative for parents.

By Caitlin Berens

From: Parents http://www.parents.com/baby/care/pediatricians-medicine/babys-first-doctor-appointment/

28. Baby's first appointment: Meeting a Doctor

There are a few main things that the doctor will accomplish during this initial visit: Examine Baby, educate parents, and ask and answer questions. Every pediatrician's approach differs. Some will examine and provide information at the same time. Others will finish the examination, and then begin to ask questions. During the physical examination the doctor will need to see your baby naked to examine her entire body. The doctor will look at her eyes, ears, nose, skin, and limbs, and also test that she is responsive and has proper reflective actions (such as becoming a little fussy when introduced to a cold stethoscope). The doctor will also look for signs of jaundice or hernias. The doctor will examine the umbilical cord and a circumcised penis for signs of infection and proper healing. A lot will be covered, but don't be afraid to ask the doctor to slow down, repeat, or clarify information.

By Caitlin Berens

From: Parents http://www.parents.com/baby/care/pediatricians-medicine/babys-first-doctor-appointment/

29. Well-baby Exam: What to Expect During Routine Checkups

A well-baby exam involves measurements, vaccines and an evaluation of your baby's development. Know the basics of a well-baby exam and how to prepare.

Well-baby exams, or regular checkups, are an important way to monitor your baby's growth and development. These exams also provide an opportunity to develop a relationship with your baby's doctor.

Your baby's doctor will likely recommend the first well-baby exam within three to five days after birth, or shortly after you're discharged from the hospital. Additional well-baby exams will be needed every few weeks and, later, months for the first year. In some cases, the baby's doctor might want more frequent checkups. Here's what's on the agenda during these exams.

By Mayo Clinic StaffFrom: Mayo Clinic http://www.mayoclinic.org/healthy-lifestyle/infant-and-toddler-health/in-depth/healthy-baby/art-20044767

30. Well-baby exam: Measurements

A well-baby exam usually begins with measurements. You'll need to undress your baby so he or she can be accurately weighed on an infant scale. Length will be measured by placing your baby on a flat surface and stretching his or her legs out. A special tape will be used to measure his or her head circumference.

The measurements will be plotted on a growth chart to determine your baby's growth curve. This will help determine if your baby is growing normally and show how his or her growth compares to other children of the same age.

By Mayo Clinic StaffFrom: Mayo Clinic
http://www.mayoclinic.org/healthy-lifestyle/infant-and-toddler-health/in-depth/healthy-baby/art-20044767

31.HEAD-TO-TOE PHYSICAL WELL-BABY EXAM

Expect a thorough physical exam during the checkup. Mention any concerns you have or areas you want the doctor to check out.

Here are the basics:

Head. The doctor will check the soft spots (fontanels) on your baby's head. These gaps between the skull bones are safe to touch and give your baby's brain room to grow. The doctor will check the shape of your baby's head as well.

Ears. The doctor will check for fluid or infection in your baby's ears with an instrument called an otoscope. He or she might observe your baby's response to various sounds, including your voice.

Eyes. He or she might also look inside your baby's eyes with an instrument called an ophthalmoscope. As your baby gets older, the doctor might use a bright object or flashlight to catch your baby's attention and then track your baby's eye movements.

Mouth. A look inside your baby's mouth might reveal signs of oral thrush, a common – and easily treated – yeast infection. As your baby gets older, the doctor might ask whether you've noticed more drooling or chewing than usual. These are often the first signs of teething.

Skin. Various skin conditions might be identified during the exam, including birthmarks and rashes.

Heart and lungs. The doctor will listen to your baby's heart and lungs with a stethoscope to detect any abnormal heart sounds or rhythms or breathing difficulties. Heart murmurs are often innocent, yet sometimes consultation with a specialist is recommended.

Abdomen. By gently pressing your baby's abdomen, the doctor can detect tenderness, enlarged organs or an umbilical hernia, which occurs when a bit of intestine or fatty tissue near the navel breaks through the muscular wall of the abdomen.

Hips and legs. The doctor might move your baby's legs to check for dislocation or other problems with the hip joints.

Genitalia. The doctor will likely inspect your baby's genitalia for tenderness, lumps or other signs of infection. For girls, the doctor might ask about vaginal discharge. For boys, the doctor will make sure both testes have descended into the scrotum and, in the case of circumcision, whether the penis is healing properly.

Unless your baby has special needs or concerns, lab tests aren't needed at most well-baby exams.

By Mayo Clinic Staff From: Mayo Clinic
http://www.mayoclinic.org/healthy-lifestyle/infant-and-toddler-health/in-depth/healthy-baby/art-20044767

32. Maternal and Newborn Health

Since 1990, maternal deaths worldwide have dropped by 45 percent, but every day about 800 women die from preventable causes related to pregnancy and childbirth. Almost all of these deaths occur in low-income settings as a result of conditions that include severe bleeding, infection, high blood pressure, and complications during delivery.

Maternal health is closely linked to newborn survival. While great strides have been made in reducing global child mortality, newborns now account for 44 percent of all childhood deaths. Each year, 2.9 million newborns needlessly die within their first month and an additional 2.6 million are stillborn. The main causes, which are preventable and treatable, are complications due to prematurity, complications during delivery, and infection.

Proven, high-impact interventions are available, but they are not reaching all of the women and newborns who need them. Although facility births are increasing in all regions and income groups, quality of care at birth remains a major challenge. Many women give birth at home and may not see a skilled health worker before or after delivery. Skilled health workers often lack access to critical supplies and medicines.

From: http://www.gatesfoundation.org/What-We-Do/Global-Development/Maternal-Newborn-and-Child-Health

33.Maternal and Newborn Health: Opportunities

Most maternal and newborn deaths can be prevented using existing, proven, cost-effective interventions: antibiotics, cord care (including sterile blades for cutting umbilical cords), drugs that prevent and treat postpartum hemorrhage, resuscitation, immediate and exclusive breastfeeding, and kangaroo mother care to keep the newborn warm with skin-to-skin contact and breastfed. An increasing number of women are seeking to deliver their babies at first-level facilities, which provides an opportunity to expand quality services around the time of birth.

Such cost-effective interventions can significantly reduce maternal and newborn mortality. Further improvements are also possible through the development of new tools and technologies that enable earlier, faster, and more accurate

assessment of gestational age and diagnosis and treatment of dangerous conditions, including measures to prevent preterm death.

Increasing the coverage of family planning services, especially among high-risk adolescent girls, can help significantly reduce maternal and newborn mortality. Improvement in the quality of antenatal and postpartum services can help strengthen the link between family planning and maternal and newborn health.

From: http://www.gatesfoundation.org/What-We-Do/Global-Development/Maternal-Newborn-and-Child-Health

34. Thoracic Medicine Specialist: Job Description

Thoracic medicine specialists require significant formal education. Learn about the education, job duties and licensure information to see if this is the right career for you.

Thoracic medicine specialists are physicians who focus on the chest region of the body. In both the U.S. and Australia, becoming a thoracic medicine specialist requires significant education and training in the medical field. This is a field with high job growth and high salaries.

Essential Information

Thoracic medicine may be a surgical or nonsurgical medical specialty. Thoracic medicine specialists, or pulmonologists, manage non-surgical care of serious respiratory ailments like pneumonia, tuberculosis and chest infections. Thoracic surgeons treat injuries, diseases and congenital abnormalities in a patient's chest, including surgery to remove tumors, manage disorders or repair trauma to the heart, blood vessels, lungs, esophagus and diaphragm. A thoracic surgeon may specialize in one region, such as the lungs, or in one type of surgery, such as coronary artery bypass. Both specialists and surgeons must complete 9-16 years of combined undergraduate education, medical education and medical residency.

Job Duties of a Thoracic Medicine Specialist

Pulmonary disease specialists perform diagnostic tests like bronchoscopies, as well as treating and monitoring cases of complex respiratory disorders. Pulmonologists may perform biopsies and catheterizations, but most surgical intervention in the chest cavity is done by thoracic surgeons.

Thoracic surgeons evaluate patients, manage operative procedures and oversee postoperative care. Duties include coordinating nurses and assistants, reviewing medical histories, assessing patients and consulting with other specialists. Diagnostic procedures include biochemical tests, tissue biopsy, cardiac catheterization and electrocardiography.

From: https://study.com/articles/Thoracic_Medicine_Specialist_Job_Description_Duties_and_Requirements.html

35. Thoracic Medicine Specialist: Requirements to Become a Pulmonologist or Thoracic Surgeon in the U.S.

Knowledge of thoracic and cardiovascular structures, as well as related pathologies is essential. Undergraduate training and medical school requirements are similar for pulmonologists and thoracic surgeons before they specialize.

After earning a Doctor of Medicine (M.D.), both pulmonologists and surgeons complete residencies approved by the Accreditation Council for Graduate Medical Education. Future pulmonologists complete an internal medicine residency, with rotations in pulmonary medicine, followed by either a 2-year pulmonary fellowship or a 3-year fellowship in pulmonary and critical care, according to the American College of Physicians. Pulmonary disease specialists get certification from the American Board of Internal Medicine.

According to the American Board of Thoracic Surgeons (ABTS), thoracic surgeons can combine a general or vascular surgery residency with a thoracic surgery residency or complete a 6-year integrated thoracic surgery residency. After completing residency, thoracic surgeons can test for their ABTS certification in general thoracic surgery or congenital cardiac surgery, which include a written and oral exam.

After medical school and residency training, both thoracic surgeons and pulmonologists must pass the United States Medical Licensing Examination begin practice.

From: https://study.com/articles/Thoracic_Medicine_Specialist_Job_Description_Duties_and_Requirements.html

36. Requirements to Become a Thoracic Medicine Specialist in Australia

Thoracic medicine specialists in Australia perform duties similar to a pulmonologist. Aspiring thoracic medicine specialists can enter a 5-year to 6-year Bachelor of Medicine and Bachelor of Surgery (MBBS) straight from year 12 of secondary school, or earn a bachelor's degree and enroll in a graduate-entry medical school program, which takes four years.

Following medical school graduation from either the 6-year or 4-year program. Doctors must get provisional registration with the Medical Board of Australia prior undertaking an internship with rotations through specialties including respiratory medicine. After the yearlong internship, typically in a public hospital, prospective thoracic medicine specialists attain full medical registration with the Medical Board of Australia and become resident medical officers for a year of pre-vocational training, followed by 3-8 years of

vocational training in a specialist program. Thoracic medicine specialists are a subspecialty of internal medicine.

From: https://study.com/articles/Thoracic_Medicine_Specialist_Job_Description_Duties_and_Requirements.html

37. Ambulance Technician and Paramedics:

Summary of Career Education

Learn about the education and preparation needed to become an ambulance technician and paramedic. Get a quick view of the requirements as well as details about training, job duties and certification to find out if this is the career for you.

Ambulance technicians and paramedics must go through extensive on-site training as well as classroom-based courses. These certifications are divided into EMT-Basic, EMT-Intermediate and EMT-Paramedic training, and each one is more advanced than the last. These courses include everything from basic medical care to pharmacology.

Essential Information

Ambulance technicians and paramedics are often the first people to a medical emergency. They assess the situation and may apply medical treatment as necessary. People in these roles are highly-trained emergency medical technicians (EMTs) that must complete several levels of training and earn certification.

From: https://study.com/articles/Ambulance_Technician_and_Paramedics%3A_Summary_of_Career_Education.html

38. Required Education for

Ambulance Technicians

All ambulance technicians and paramedics must complete emergency medical technician (EMT) training. Candidates must be at least 18 years old, own a valid driver's license and have a high school diploma or its equivalent. Most programs also require potential students to be certified to perform cardiopulmonary resuscitation (CPR), though some basic programs provide this as part of their curriculum.

EMT Training

The first two levels of EMT training are referred to as EMT-1 or EMT-Basic and EMT-2 or EMT-Intermediate. Students must complete a minimum of EMT-Basic before entering an EMT-Paramedic training program. During EMT training, students gain education in both classroom and practical settings. EMT training programs can be completed in as few as three weeks or last up to six months depending on the program. Programs commonly cover: Medical technician basics; Medical equipment and terminology; Emergency responsiveness; Respiratory and cardiovascular issues.

From: https://study.com/articles/Ambulance_Technician_and_Paramedics%3A_Summary_of_Career_Education.html

39. Required Education for

Paramedics

Paramedics are the most experienced and educated of all emergency medical response personnel. After becoming EMTs, all prospective paramedics must complete a training program that lasts 6-24 months. This may result in an

Associate of Science in Fire Technology or a similar field. Paramedic programs place students in clinical and classroom settings. They typically require 1,200-1,800 hours of clinical experience. Class topics include: Patient health assessment; Emergency driving; Pharmacology; Airway management; Unique medical emergencies.

Certification. All ambulance technicians and paramedics must be certified to gain employment throughout the U.S. The National Registry of Emergency Medical Technicians (NREMT) provides certification exams for those who have completed emergency medical response training (*www.nremt.org*). NREMT exams include written and practical tests that measure physical responsiveness, procedural knowledge and mental acuity. Once someone passes the exam and earns certification, he or she must complete continuing education coursework to maintain certification. Most states don't require additional credentials, but some issue their own licensure exams to either complement or replace the NREMT.

From: https://study.com/articles/Ambulance_Technician_and_Paramedics%3A_Summary_of_Career_Education.html

40. Anesthesiologist Licensing and Credentialing Information

Anesthesiologists, like all medical physicians, must become licensed to practice in the United states. Check out details on licensing and credentialing requirements, and review additional career information.

Licensure and Certification. Aspiring anesthesiologists can benefit from information about licensure requirements and subspecialty certification options, as well as general career information.

Anesthesiologists are medical doctors and therefore need to be licensed. They must pass the U.S. Medical Licensing Examination (USMLE). Beyond standard

physician licensing, anesthesiologists must receive board certification through the American Board of Anesthesiologists after completing a residency program and a two-part exam.

To be eligible for licensure, aspiring anesthesiologists must first complete four years of medical school and go through a residency program to gain specific training in anesthesiology. Anesthesiology residency programs last for four years.

Subspecialty Options. Some anesthesiologists complete an additional year of fellowship training to earn sub-specialty certification. Specialty options include critical care medicine, pain medicine, hospice, palliative medicine, pediatric anesthesiology and sleep medicine. Anesthesiologists must complete a re-certification exam once every 10 years in order to maintain standard board certification.

From: https://study.com/articles/Anesthesiologist_Licensing_and_Credentialing_Information.html

41. ER Doctor Requirements:

Info for Aspiring Emergency Room Doctors

Learn about the education and preparation needed to become an emergency room doctor. Get a quick view of the requirements as well as details about training, job duties, licensure and certification to find out if this is the career for you.

Do you thrive under high pressure situations in fast paced environments? Are you interested in the medical industry and caring for others when their lives depend on it? If you do, then you might consider becoming an emergency room doctor.

Essential Information. Emergency room doctors provide medical treatment in life-threatening situations. Becoming an ER doctor is a long and challenging task that requires completion of undergraduate prerequisite courses, medical school, and a residency. While an undergraduate degree is not required, the vast majority of matriculating medical students have bachelor's degrees.

Required Education: Undergraduate prerequisite courses (2-4 years); Medical school (4 years); Emergency Medicine residency.

Other Requirements: Continuing Medical Education (CME) credit to maintain license and board certification after residency; DEA registration to prescribe controlled substances.

From: https://study.com/articles/ER_Doctor_Requirements_Info_for_Aspiring_Emergency_Room_Doctors.html

42. Required Steps to Becoming an ER Doctor

Step One: *Complete an Undergraduate Degree*

Many aspiring ER doctors begin their path to becoming board certified physicians by completing pre-med studies as undergrads. A pre-med undergraduate degree is by no means the only acceptable path to medical school. Medical school applicants are a diverse group with a variety of majors, such as English, psychology and history, as well as biology and chemistry.

All applicants must meet the prerequisites established by medical schools. These typically include completion of coursework in biology, organic chemistry, biochemistry, physics and mathematics. In addition, advanced life science courses are generally recommended and help applicants perform better on another med school requirement, the Medical College Admissions Test (MCAT).

Step Two: Enter Medical School

Because medical school admissions are keenly competitive, strong performance on the MCAT is a must. Chemistry, biology, organic chemistry and physics are covered in this rigorous, daylong exam. Applicants who have completed prerequisite coursework, have earned a high GPA, can produce strong letters of recommendation and have achieved outstanding MCAT scores have a fighting chance of getting into a respected medical school.

During their four years of medical studies, medical students will not choose a major but instead undertake a challenging course of study that provides a foundation of medical knowledge as well as exposure to several kinds of medical practice. Rotations through all the departments in a hospital begin in the third year, which provide the needed experience that allows medical students to select an area of specialization for their residency.

Step Three: Get Matched with an ER Residency

Matching is the term used for the process that begins in the last year of medical school for finding a placement in a paid post-graduate residency program in which a Doctor of Medicine (MD) becomes an ER doctor. Some ER residencies require that residents serve a preliminary year in a less hectic medical environment and gradually acquire the confidence and skills necessary to work in the ER. In other programs, residents go to work directly in the ER under the supervision of experienced ER doctors. During the three or four year program, residents learn to respond to a wide variety of acute medical issues and stabilize patients for release or for further treatment by a specialist.

Step Four: Become Board Certified

In addition to becoming licensed to practice medicine, physicians can become board certified in their area of specialization after completing their residency, working as an ER doctor for a year or continuing to a subspecialty fellowship program and passing strenuous examinations.

Licensure, which is mandatory, is earned by passing a national qualification exam generally after completion of medical school. Board certification demonstrates that a physician has met the minimum requirements to practice medicine by establishing expertise. Two certifying boards for emergency medicine are the American Osteopathic Board of Emergency Medicine (AOBEM) and the American Board of Medical Specialties (ABMS).

Step Five: Engage in Continuous Professional Development

Regular continuing education is required by both the American Osteopathic Board of Emergency Medicine (AOBEM) and the American Board of Medical Specialties (ABMS) for maintenance of board certification. The ABMS, *www.abms.org*, has adopted a model used to measure continuous professional development according to 'six core competencies for quality patient care,' which include medical knowledge and practice-based learning.

Lifelong learning opportunities are determined by each specialty member board. Typically, medical schools feature a department of continuing medical education with frequent course offerings in each specialty, such as emergency medicine, that address the key areas of care in this model.

From: https://study.com/articles/ER_Doctor_Requirements_Info_for_Aspiring_Emergency_Room_Doctors.html

43. Medicine – MD: Education Overview

According to the American Medical Association (AMA), the road to earning a Doctor of Medicine degree begins with completing a 4-year undergraduate degree. Majors are usually in subjects like chemistry and biology, though it's possible to be admitted into medical school with a degree in an unrelated field.

The undergraduate degree is followed by four years of education at a medical school accredited by the Liaison Committee on Medical Education (LCME). Admission to medical school typically requires the student to pass the Medical College Admission Test (MCAT). Education in the medical school consists of preclinical and clinical instruction. Upon completion of medical school, the student earns his or her MD, but isn't yet able to practice medicine.

After completion of the MD, the next 3-7 years are spent in a residency program, training under senior physicians. The length of this program is determined by the specialty area. For instance, training in general surgery typically takes five years, whereas, family practice generally requires three years. Some MDs go even further with a fellowship in a specialty area, such as pediatrics or psychiatry. This can take several additional years to complete.

After receiving an undergraduate and medical degree and finishing the residency program, prospective doctors can now apply for licensure from the state in which they would like to practice medicine. This requires a number of exams. After passing the exams, the doctor is ready to practice medicine. Most physicians specialize and become board certified, which means the doctor has been assessed in his or her specialty and found to be knowledgeable and qualified to give care in that particular field of medicine.

From: https://study.com/directory/category/Medical_and_Health_Professions/Medical_Residency_Programs/Medicine_-_MD.html

44. Doctor of Medicine: Steps to Become a Medical Doctor

There are five steps to become a medical doctor.

Step 1: Earn a Bachelor's Degree

Most medical school applicants complete a bachelor's degree program before they apply to medical school. Students can choose a variety of majors for undergraduate study; however, students should be sure that their course load includes a significant amount of science studies. Students are also expected to complete undergraduate work in the social sciences, English, and mathematics.

Step 2: Complete Medical School

Medical school takes four years to complete. In **the first two years**, students take foundational coursework in the practice of medicine, bodily systems and diseases. During **the last two years** of medical school, students rotate through various hospital specialty departments and gain experience in patient care under faculty supervision. Students must also pass a series of examinations in their final year, which may include the U.S. Medical Licensing Examination.

Step 3: Complete a Residency

Individuals choose residency programs based on their career interests. These programs usually last from three to eight years and cover general medical principles and specific medical specialties. Residents perform a variety of extensive duties, such as conducting physical exams, taking patient histories, attending conferences and interpreting lab information. The National Resident Matching Program uses individual preferences to match residency applicants to programs.

Step 4: Obtain Licensure

Before practicing medicine, all doctors must obtain a license. To qualify for licensure, candidates must earn a degree from an accredited medical school. Candidates are also required to complete a residency program and pass the U.S. Medical Licensing Examination (USMLE). Each state has different requirements to become licensed; for example, some states may only give

candidates a certain number of attempts to pass the USMLE, while others have no limit on USMLE attempts.

Step 5: Earn Certification in a Specialty Area

Earning a specialty certification is not required, but it may increase employment opportunities. Certification by the American Board of Medical Specialties is voluntary and involves an extensive process of evaluations and assessments. Doctors who wish to keep their certification must continue their education before testing for certification renewal.

From: https://study.com/articles/Doctor_of_Medicine_Steps_to_Become_a_Medical_Doctor.html

45. Surgeon Education Requirements

Before entering medical school, aspiring surgeons must complete undergraduate school to earn a bachelor's degree. These 4-year degrees do not have to focus specifically on medicine; however, curricula should focus heavily on the physical sciences to prepare students for the strong emphasis on science in medical school. Courses in anatomy, biology, chemistry, math and physiology may be beneficial. Some medical schools admit students after only three years of undergraduate school.

Medical Degree. With bachelor's degrees, students are prepared to attend medical school and pursue Medical Doctor (M.D.) or Doctor of Osteopathic Medicine (D.O.) degrees. M.D. degree program curricula are generally divided into two years of foundational medical courses followed by two years of clinical clerkships. During clerkships, students work directly with patients, applying classroom instruction obtained in the first two years to diagnose illnesses and provide healthcare.

Post-Doctoral Training. After medical school, students typically continue their medical training in residency programs, gaining practical experience in a chosen specialty under the supervision of licensed physicians. Some specialties include general surgery, orthopedic surgery, plastic surgery, or urology.

According to the American Medical Association (AMA), these programs can last 3-7 years depending on the specialty, though general surgery residencies typically take five years to complete (*www.ama-assn.org*). Surgeons who wish to focus their careers on sub-specialties of the profession must complete an additional 1-3 years of post-doctoral training in fellowship programs.

Licensure. Along with extensive, formal training from an accredited medical school, all states require surgeons to obtain medical licensure. Licensure entails passage of the United States Medical Licensing Examination or the Comprehensive Osteopathic Medical Licensing Exam. Surgeons must also become board-certified in surgery and any subspecialties by the American Board of Medical Specialists or American Osteopathic Association. Surgeons are generally required to complete continuing education credits throughout their careers to maintain licensure and certification.

A surgeon mainly focuses on operating on patients and requires a bachelor's degree, medical degree, and licensure.

From:

https://study.com/articles/Surgeon_Career_Summary_and_Required_Education.html

46. Family Practice Doctors: Essential Information

Family practice doctors require significant formal education. Learn about the training, job duties, certification requirements, and career options to see if this is the right career for you.

Family practice doctors provide primary care to patients. They must complete medical school as well as an internship and residency in family care. All doctors must be licensed by the state and certified by a medical board.

Family practice doctors, also known as family physicians, are general practitioners, as opposed to specialists. Family medicine was created specifically to take care of the healthcare of families, and as such, family physicians are trained to take care of patients of all ages.

At a minimum, following high school graduation, the road to becoming a family physician requires completion of certain undergraduate prerequisite courses, medical school, three years of family medicine residency, and all three parts of the United States Medical Licensing Exam. Thereafter, to maintain certification and licensure, periodic re-testing and accumulation of Continuing Medical Education (CME) credit are required. A career in family medicine may appeal to anyone who likes science, variety, problem-solving, collaboration, lifelong learning, and developing long-term relationships with people and their families.

From: https://study.com/articles/Family_Practice_Doctors_Salary_Duties_and_Requirements.html

47. Family practice doctors: Job Duties

Family practice doctors, as primary care physicians, are often the first person whom a patient sees when seeking healthcare services. They examine and treat patients with a wide range of conditions and refer those with serious ailments to a specialist or appropriate facility.

Typical job duties include taking patient histories, performing or requesting diagnostic tests, making diagnoses, prescribing treatment, administering vaccinations and performing follow-up examinations, as well as educating patients in disease prevention and health maintenance. Additional duties include preparing medical records, clinical reports and correspondences. Family practice doctors also supervise allied health professionals, such as nurses, physician assistants and medical assistants.

From: https://study.com/articles/Family_Practice_Doctors_Salary_Duties_and_Requirements.html

48. Family practice doctors: Educational Requirements

All premedical students must take courses in physics, chemistry, organic chemistry and biology as undergraduates. While a bachelor's degree is not an absolute requirement to gain admission to medical school, it is highly recommended. Premedical students should also participate in extracurricular activities, take on leadership roles and gain clinical experience by volunteering in a hospital or shadowing a physician in order to be more competitive for medical school. Typically, students must also take the Medical College Admission Test (MCAT) and submit their scores with their medical school application.

During medical school, students complete two years of classroom instruction in the sciences, followed by two years of clinical rotations. Graduates must pass the United States Medical Licensing Examination (USMLE) before they may practice medicine.

Following medical school, those who wish to become family practice doctors must complete a 3-year family practice residency. During residency, physicians are trained in their specialty while receiving a relatively small salary. The first year of residency is called an internship and is a time of direct supervision prior

to a resident receiving their medical license and progressing to more independent practice. According to the Accreditation Council for Graduate Medical Education (ACGME), family medicine residents must complete rotations in a wide variety of disciplines in both the inpatient (hospital) and outpatient (doctor's office) settings, including neonatology, pediatrics, internal medicine, cardiology, surgery, emergency medicine, critical care medicine, sports medicine, obstetrics and gynecology, geriatrics, psychiatry, and others that vary between residency programs.

Upon completion of a family medicine residency program, graduates must take an examination given by the American Board of Medical Specialties (ABMS), for those with M.D. degrees, or the American Osteopathic Association (AOA), for those with D.O. degrees, to become board-certified in family medicine.

From: https://study.com/articles/Family_Practice_Doctors_Salary_Duties_and_Requirements.html

49. Pediatrician: Essential Information

Pediatricians require a significant amount of formal education. Learn about the education, job duties and residency requirements to see if this career is right for you.

If you want to be a doctor that works exclusively with children and teenagers, then pediatrics may be the right field for you. Pediatricians commonly have a private practice, but also work in hospitals and outpatient centers. Since they are medical doctors, they must complete medical school and a pediatric residency, then obtain a license and possibly board certification to increase their chances of employment.

Pediatricians are medical doctors who work with children and teenagers, diagnosing illnesses and writing prescriptions. Becoming a pediatrician typically involves at least seven years of graduate-level schooling, including medical school and a residency. Completion of a fellowship may be required for pediatric board certification, which is optional but obtained by many pediatricians. These professionals can expect solid employment opportunities.

From:
https://study.com/articles/Pediatrician_Occupational_Outlook_and_Educationa l_Requirements_for_a_Career_in_Pediatrics.html

50. Pediatricians: Educational Requirements

Prospective pediatricians need to meet extensive educational requirements, often beginning with a bachelor's degree in a science-related area, such as biology or chemistry. After finishing their undergraduate programs, they must complete medical school and a pediatric residency before seeking licensure and specialty certification.

*Medical School.*Students should apply to medical schools that are accredited by the Liaison Committee on Medical Education (LCME). As of 2015, the LCME had accredited 134 U.S. medical programs. According to the BLS, applicants submit transcripts, letters of recommendation and their scores on the Medical College Admission Test (MCAT); they may also have to interview with a member of a program's department.

During the first two years of medical school, students explore the major systems of the body and learn basic principles in the practice of medicine. In the final two years, they perform a series of supervised clinical rotations that usually last

1-2 months each. Some rotations are required, but there are electives that allow students to pursue their areas of interest.

Residency Programs. Residencies in this field typically last three years and expose residents to general pediatrics and various subspecialties, such as pediatric cardiology, pediatric emergency medicine and pediatric nephrology. Once their residency is completed, individuals who wish to work in a subspecialty might choose to pursue a fellowship.

Pediatrics is a rapidly growing field, thus an abundance of job opportunities will become available. A career as a pediatrician entails a great deal of education, including medical school and residency programs, as well as licensure. Moreover, after all that hard-work, a bountiful average salary will be a great reward.

From:

https://study.com/articles/Pediatrician_Occupational_Outlook_and_Educationa l_Requirements_for_a_Career_in_Pediatrics.html

51. Steps to Be a Gastroenterologist

Step 1: Earn a Bachelor's Degree

While an undergraduate education is required for entrance to medical school, students are not required to major in a specific topic. Many programs look for students with a well-rounded education, as long as they have taken the mandatory prerequisite courses during their undergraduate studies. These prerequisites can include biology, inorganic and organic chemistry, mathematics, physics, humanities, English, and social sciences.

Step 2: Take the MCAT

All students must take the Medical College Admission Test (MCAT) to be considered for admission to medical school, and each program defines its own minimum score requirements. This test is usually taken during the junior year of study in a bachelor's degree program.

Step 3: Complete a Medical School Program

Medical school is a four-year course of study that leads to a Doctor of Medicine (M.D.) or Doctor of Osteopathic Medicine (D.O.). The first two years generally focus on classroom and laboratory instruction in science and medicine topics, like anatomy and physiology, pharmacology, diagnosis, and medical ethics. The final two years consist of clinical rotations, during which time the students gain hands-on experience in multiple medical specialties.

Step 4: Get Licensed

All physicians are required to pass medical licensing examinations in order to practice the profession. Passage of the U.S. Medical Licensing Examination, which is administered by the National Board of Medical Examiners and the Federation of State Medical Boards, is commonly required. This is a three-step exam that tests a student's ability to understand concepts, principles, and skills specific to the profession. Other licensing requirements vary by state.

Step 5: Obtain Residency Training

After completing medical school, doctors undertake two to three years of residency training in internal medicine. Residency training gives students in-depth experience in the internal workings of the human body to prepare for advanced training in gastroenterology. Residents complete clinical rotations in various subspecialties of internal medicine, and they might get didactic instruction in the classroom.

Step 6: Complete a Gastroenterology Fellowship

A 3-year fellowship is the final step in the student's education in preparation for becoming a gastroenterologist. This includes at least 18 months of patient-care experience. A consortium of the four major gastrointestinal medical societies has established guidelines that require fellows to gain training in a variety of hepatic and gastrointestinal diseases. The consortium also requires fellows to take part in the long-term management of patients with diseases of the gastrointestinal system.

Step 7: Become Board-Certified

One way to advance a gastroenterology career is to become board certified. Although board certification is not a requirement to practice, most gastroenterologists elect to become certified in their specialty by the American Board of Internal Medicine (ABIM). Gastroenterologists must first obtain certification in internal medicine through the ABIM before pursuing certification in gastroenterology. Board certification requires passing an exam and holding a current license to practice medicine.

Step 8: Continue Learning

Gastroenterologists are required to continue their education in order to renew their license and certifications. They can take advanced courses in subjects such as esophageal disease, gastrointestinal oncology, and nutrition/obesity. In addition to satisfying requirements, continuing education can help a gastroenterologist improve his or her skills and stay current with advances in the field.

Step 9: Join a Professional Organization

Membership in a professional organization, such as the American Gastroenterological Association, can provide gastroenterologists with access to continuing education opportunities as well as other benefits for career

advancement. These include subscriptions to medical journals and publications, listings in professional directories and access to networking opportunities.

Aspiring gastroenterologists earn an undergraduate degree before applying to medical school, which entails four years of training, followed by two to three years of a residency in internal medicine, and an additional three years of training in a gastrointestinal medicine fellowship. Gastroenterologists need a license to practice and voluntary certification is available.

https://study.com/articles/How_to_Become_a_Gastroenterologist_Education_and_Career_Roadmap.html

52. Steps to Become an Obstetrician

Let's look at the steps required to become an obstetrician.

Step 1: Complete a Bachelor's Degree Program

While there is no required major for entrance into medical school, the BLS states that most aspiring doctors earn bachelor's degrees in science disciplines. Some schools integrate premed studies into a student's chosen major to fulfill both degree requirements and medical school prerequisites. Some colleges and universities combine bachelor's and Doctor of Medicine (M.D.) degree programs into 6- or 7-year curricula instead of the usual 4+4 years of separate study.

Step 2: Attend Medical School

After earning a bachelor's degree, students must attend a medical school for four years to earn an M.D. During the first two years of medical school, students usually take lecture courses in anatomy, laboratory science, and general health care procedures. During the final two years, students gain practical experience

examining patients during clinical rotations at local or affiliated hospitals and clinics.

Step 3: Obtain a Medical License

Medical school graduates qualify to take the United States Medical Licensing Examination (USMLE). All states require doctors who intend to enter public practice to pass the test and obtain a medical license. Licensure is typically required before entering a residency program.

Step 4: Participate in a Residency

With medical training and licensure requirements met, prospective obstetricians must then participate in a four-year residency program under the direction of one or more licensed obstetricians. Acceptance into an obstetrics and gynecological residency program is competitive, and most accept only a small number of residents per year. During their residency, students receive hands-on training in pregnancy monitoring, delivering babies, gynecological procedures, maternal-fetal medicine, gynecologic oncology, urology, reproductive endocrinology, and infertility.

Step 5: Become Board Certified

In addition to earning a medical license, nearly all employers seek obstetricians with board certification in obstetrics and gynecology. The **American Board of Physician Specialties** offers board certification to physicians who pass both a written and an oral exam and demonstrate experience in the discipline.

Step 6: Continue Education

Obstetricians are required to continue their educations in order to renew licensure and certification. Obstetricians may obtain Continuing Medical Education (CME) credits by completing self-assessment activities or by attending approved courses, seminars, and conferences. In addition to satisfying

renewal requirements, continuing education can help an obstetrician improve his or her skills while staying current with medical advances.

From:

https://study.com/articles/How_to_Become_an_Obstetrician_Education_and_Career_Roadmap.html

53. Inside Clinical Laboratory Science

Professionals in the clinical laboratory science field use microscopes and computerized equipment to analyze bodily fluids and cells. To learn more about training programs and job opportunities in this field, keep reading.

Clinical laboratory technicians and technologists often work in medical and diagnostic laboratories, hospitals and physicians' offices. These professionals conduct laboratory tests that are used by physicians and other medical workers to diagnose, treat and prevent disease or infection. Common duties include compiling and analyzing data, communicating results to physicians and working safely with potentially hazardous materials.

The field of clinical laboratory science includes several options for training and employment. *Study.com* has many resources that can help you decide which academic or career path is right for you.

From:

https://study.com/directory/category/Medical_and_Health_Professions/Clinical_Laboratory_Science_Professions/Clinical_Laboratory_Sciences.html

54. Clinical Laboratory Science: Education Overview

A student may earn an associate's degree to obtain a position as a clinical laboratory or medical technician. Medical technicians often work under the supervision of medical or clinical laboratory technologists. A position as a medical technologist requires a bachelor's degree. Medical technologists often perform more complex testing and analytical procedures within the laboratory. These professionals may also train lab personnel and set up quality assurance programs. With enough experience, technologists can advance to managerial positions; earning a master's or doctoral degree might lead to additional career opportunities as well.

Certification and licensure requirements for technicians and technologists vary from state to state. Some professional organizations that offer voluntary certification include the American Medical Technologists and the American Society for Clinical Pathology.

There are multiple training options for aspiring clinical laboratory workers, including associate's, bachelor's and master's degree programs. Read the articles below to learn more.

From:

https://study.com/directory/category/Medical_and_Health_Professions/Clinical_Laboratory_Science_Professions/Clinical_Laboratory_Sciences.html

55.

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