

Unit 3

Pre-reading Activity

A. Skim through the text and answer the following questions.

1. How do conventional medical schools train doctors?
پزشکی سنتی با مدرسه
2. What is functional medicine?
پزشکی کاربردی
3. How does functional medicine train practitioners?
پزشکان - experts
4. Is functional medicine grounded in science? Explain it.
مستند بودن با
5. Which method (conventional or functional medicine) is more expensive? Why?
6. Which approach to medicine is safer and has fewer side effects?
عوارض جانبی
کمتر



Reading

Functional Medicine: A Science whose Time Has Come

A few years ago, Louis Messina was in pain. Despite being on a variety of big-gun drugs to control his psoriatic arthritis, an autoimmune disease that attacks the joints, he still suffered from constant pain and swelling throughout his body. He walked with a limp because his left knee had arthritis induced tissue damage; the big-toe joint on his right foot was similarly destroyed; and in the mornings, he would awake to find his hands balled up into fists. (They would unclench only after he submerged them in warm water for several minutes.)

form sth or be
formed in to the
shape of a ball

“Morning stiffness may sound like a minor problem, but it’s a big thing,” Messina says. “If you can’t open your hands up in the morning, you really can’t do much. You can’t brush your teeth, or wash your face, or shave.” Nor can you perform surgery. At the time, Messina was in

his early 50s, ^{spending time} putting in 60 to 80 hours weekly as ^{= heard} chief of vascular surgery at the ^{famous} renowned University of California, San Francisco school of Medicine.

“I was quite ^{کاملاً} **incapacitated**,” he ^{خاطر پریشانی و بیمار بودن} recalls. “It was at the point where I ^{remember} couldn’t really ^{در بدن - در مریض} make rounds with the residents in the mornings because I wasn’t able to easily walk up and down the stairs.” ^{disappointment} Frustrated and thinking about early retirement, Messina made an appointment with Mark Hyman, MD, the medical director and ^{pioneer} founder of the UltraWellness Center in Lenox, Mass, and a ^{پیشرو} leading expert in functional medicine. “I had never even heard of functional medicine,” Messina says. “I went on the recommendation of a friend of mine and, ^{honestly} frankly, because my wife wanted me to go.” ^{too ill or weak}

Hyman took a ^{تفصیلی و جزئیات} detailed medical history, asking Messina very ^{خاص - ویژه} specific questions about his diet, lifestyle, early childhood illnesses, stresses, and recent health challenges, which included reflux, migraines, and more. Then he ordered ^{میکشد} a ^{مجموعه} **battery** of tests to ^{عمیق تر کردن} deepen his understanding of Messina’s ^{مجموعه} overall health. The results showed a variety of ^{اساسی} underlying ^{گوشه} gut problems, such as ^{تخمیر} yeast overgrowth, a leaky gut, and allergies or ^{حساسیت} sensitivities to many foods, including ^{گلوتن} gluten. Tests also ^{نشان دهنده} revealed low levels of vitamin D and ^{منیزیم} magnesium, ^{کمبود} hypothyroidism, and ^{پیش دیابت} prediabetes.

“He had all kinds of problems,” says Hyman. “But once we ^{درمان کردن} treated his poor, ^{وزن کم و ضعیفی} inflammatory diet and his ^{برده های اساسی بوده} underlying gut issues, which generated ^{از نظر قابل توجه} significant inflammation throughout his body, all of those problems went away.” For Messina, who up until this point had been offered only surgery or drugs (which cost more than \$30,000 ^{سالانه} annually and had serious side effects), it was an ^{بی سابقه} unprecedented medical experience. ^{بیشتر استخوان در حال} “The rheumatologist that I had been seeing before Dr. Hyman still can’t believe it. ^{She’s} She’s never seen anything like **it**,” he says. “My arthritis, my pain and swelling, it’s all gone. I now go faster on the stairs than my residents.” ^{never happening before} “She” refers to ^{the rheumatologist} the rheumatologist.

Messina’s experience, ^{معمول} while ^{معمول} notably rare in conventional medicine, is actually ^{کاملاً مشخص} quite characteristic of functional medicine, an increasingly popular healthcare model. ^{the reason of its popularity} Its claim to fame: seeing the big picture, treating the whole patient, and recognizing and treating the root of disease, as opposed to just the visible symptoms. Some ^{مردم عادی} folks have the mistaken idea that functional medicine is simply lifestyle-based medicine, but it is a ^{سیستم محور} systems-oriented, science-based approach that ^{درگیر کردن} involves taking a patient’s biochemistry, physiology, genetics, and ^{مراجعه ها/تحقیقی بیمار} environmental exposures into account when looking for the cause of a specific medical issue or set of symptoms. ^{مردم عادی} ordinary people →

Practitioners in the hyperspecialized, overbooked world of conventional medicine, says Hyman, sometimes don't have the time or inclination to adopt this wider perspective. In Messina's case, doctors had focused only on suppressing the inflammation – which was just a symptom – as opposed to digging deep and investigating what was causing that inflammation. “Most doctors aren't trained to think about the underlying causes of disease, such as toxins, allergens, microbes, nutrition, and stress,” says Hyman, who is chairman of the Institute for Functional Medicine (IFM). “Conventional medicine is the medicine of *what* – what disease do you have, what drug should I give you. Functional medicine considers the diagnosis, of course, but it also seeks to answer the question *why*.”

Matching a drug to a disease is a big part of the typical physician's job. It works like this: You get sick. You go to the doctor. The doctor runs tests or recognizes your symptoms. You're given a prescription to take to the drugstores. Sometimes the drug works wonders. Often, it doesn't – particularly in long-term use, and particularly if what you are dealing with is a chronic disease or condition. And often the drug has side effects. Over the past 70 years, this medication-centered mindset and the industry behind it have saved millions of lives, especially when it comes to infectious diseases, such as malaria and polio.

Conventional medicine is also adept at handling acute trauma. “If you go to the emergency room with a heart attack or a broken leg, the doctors who treat you will know exactly what to do,” says Victor Sierpina, MD, a family physician at the University of Texas Medical Branch whose practice is informed by functional-medicine principles. Where conventional medicine can fall short, though, is in the early identification and long-term management of chronic illness, including the kinds of digestive, metabolic, hormonal, and cardiovascular disorders in which many functional-medicine doctors specialize.

Conditions like obesity, type 2 diabetes, and cancer are characterized by a series of complex, multilayered symptoms that take years to develop and can affect every biological system, including circulation, immunity, and hormonal and neurological health. By the time most people are diagnosed with a persistent condition, they need a full-scale intervention, not a 15-minute appointment and a symptom-suppressing prescription.

A. Read the following sentences and decide if based on the information provided in the text they are true or false. Then show your choice by writing T (for true) or F (for false) in the blank space next to each sentence.

- F-----1. Messina suffered from pain just in his joints.
درد در مفاصل
- F-----2. Louis Messina is a surgery resident.
- F-----3. Since Messina was frustrated, he was retired at the age of 50.
ناامید شدن
- F-----4. Dr. Hyman recommended Messina to go to the UltraWellness Center in Lenox, Mass.
- T-----5. Dr. Hyman is a functional – medicine practitioner.
- F-----6. Its (para.6, line3) refers to conventional medicine.
- T-----7. Unlike conventional medicine, functional medicine focuses on treating the main cause of disease.
- T-----8. Some ordinary people believe that functional medicine is just based on lifestyle.
- T-----9. Some conventional practitioners don't have the time to practice functional medicine.
- F-----10. Conventional medicine is a wider perspective than functional medicine.
دیدگاه وسیع تر
- F-----11. In conventional medicine, inflammation is considered as an underlying cause of disease.
درم، در نظر گرفته می شود، اساسی
- F-----12. Nutrition and stress are considered as symptoms of diseases in functional medicine.
- T-----13. Persistent conditions like obesity should be dealt with functional approach.
دائمی، چاقی، با مدیریت
- T-----14. It is understood that functional doctors look at the interactions among genetic, environmental and lifestyle factors.
تفاعلات

B. Read the following sentences carefully and decide which one of the four options (a, b, c, or d) best completes each item

1. The first paragraph -----.

- a. is a complete medical description of psoriatic arthritis
 b. gives a brief medical history of Messina's problem
 c. mainly explains Messina's condition in the mornings
 d. is about morning stiffness of joints حکمی - درم و استخوان
2. Before visiting a functional-medicine practitioner, Louis ----- .
 a. was quite active in his daily activities
 b. had no idea of functional medicine
 c. had not referred to any conventional-medicine doctor
 d. could make rounds with his residents
3. Having taken a detailed medical history, Hyman ----- .
 a. prescribed some drugs for Messina
 b. referred Messina to a rheumatologist
 c. recommended Messina to exercise in UltraWellness Center
 d. sent Messina to a laboratory to do a number of tests
4. Louis Messina suffered from all of the following problems, EXCEPT:
 a. gut disorder
 b. food sensitivity
 c. hypocalcaemia
 d. hypomagnesaemia
5. Regarding functional medicine and conventional medicine, it is implied that ----- .
 a. the latter is more expensive but without side effects
 b. the former is both cheaper and safer
 c. both are impersonal and symptom-centric approaches
 d. neither is a medical new model for treating chronic diseases
6. The underlined it (paragraph 5, line 8) refers to ----- .
 a. Messina's exacerbated condition شرار یا تشدید شده
 b. significant inflammation throughout Messina's body
 c. mere improvement in Messina's arthritis
 d. Messina's improved health condition
7. One thing that makes functional medicine important and different from other approaches to medicine is that it ----- .
 a. treats chronic disease with pills and surgeries
 b. just pays attention to the most visible symptoms
 c. considers the patient as a whole
 d. claims the big picture back

8. Conventional medicine can easily treat all of the following cases, EXCEPT:

- a. heart attacks
- b. acute trauma
- ☒ c. cardiovascular disorders
- d. infectious diseases

9. In paragraph 8, "this medication-centered mindset and the industry behind it" refers to ----- respectively.

- a. the functional medicine and the drug industry
- ☒ b. the conventional medicine and the drug industry
- c. pharmacology and medicine
- d. medicine and pharmacy

10. If you suffer from migraines, for example, and refer to a -----, you should fill out a long questionnaire about ----- of the migraines such as your sleep and stress levels.

- a. conventional doctor / underlying causes
- ☒ b. functional doctor / possible triggers
- c. pharmacologist / the medications
- d. pharmacy / probable drugs

C. Read the following sentences carefully and decide which one of the four options (a, b, c, or d) best completes each item.

1. It is ----- as one of the region's best restaurants; different high-quality foods are served here.

- | | | | |
|--|-------|------------------|--------|
| a. notorious → | بدنام | b. visible | |
| ☒ c. renowned → | مشهور | d. perspective → | دیدگاه |

2. There was continuous rain for one week; it was a/an ----- rainfall.

- | | | | |
|-----------------|--|---|----------|
| a. generated | | ☒ b. unprecedented → | بی‌سابقه |
| c. unrecognized | | d. circulated | |

3. They are very religious; every aspect of their lives is ----- by religion.

- | | | | |
|--|------------|----------------|--|
| ☒ a. informed → | آگاه - خبر | b. conditioned | |
| c. investigated → | بررسی شده | d. diagnosed | |

4. She has a conservative ----- and prefers traditional styles and values.

- | | | | |
|----------------|--|---|-----------------------|
| a. issue | | b. frustration → | سازش - too much tired |
| c. recognition | | ☒ d. mindset → | طرز فکر |

5. More and more doctors show ----- to practice functional medicine.

- a. management
b. inclination → تمایل - tendency
c. identification
d. adoption → take and use

6. She cannot return to work since she is quite ----- by the severe unknown disease.

- a. retired
b. deteriorated → بدتر کردن
c. incapacitated → چیزی که نمی‌تواند کار کند
d. flourished → developing - جدره در دست کاری

7. The doctor is ----- at performing open heart surgery; he has many patients from different parts of the country.

- steady →
a. constant → پایدار - ثابت
b. adept → skillful - expert
c. inactive
d. characteristic

8. Since the patient's condition was worsening, the doctor prescribed different ----- drugs to control the deadly disease.

- a. big-gun → strong
b. over-the-counter → a drug that doesn't need a prescription
c. illegal
d. psychoactive

9. She was clearly in a lot of pain, so she had the operation on the ----- of her doctor.

- a. generation
b. specialization
c. opposition
d. recommendation

10. The fall left her with a painful ----- above her right eye.

- a. depth → عمق
b. reflux → برگشتن - برگشتن از معده
c. swelling → تورم
d. dig → کنیدن

11. Today's conventional focus is on identifying the disease, making a ----- and then prescribing drug.

- a. diagnosis
b. prevention → خطای کردن - پیشگیری
c. treatment
d. management

12. The medical students should seek for opportunities to ----- their understanding of different diseases.

- a. deepen → عمیق تر
b. characterize
c. treat
d. affect

D. Word Families: Fill in the blanks using the correct form of the words given in the list.

frustrate, frustration, frustrating, frustrated, frustratingly

- a. Every job has its difficulties and - Frustration.
b. What Frustratingly the hospital manager is that there's too little money to

spend on expanding the wards and the progress was frustrated slow.
 c. It was frustrating for patients to wait so long to be visited by the doctor, so they got frustrated and impatient.

incline, inclination, inclined

- a. She did not show the slightest inclination to study medicine; she preferred to major in biotechnology.
 b. They'll be more inclined to listen if you don't shout.
 c. I incline to the view that we should take no action at this stage.

underlie, underlying

- a. The ideas of the pioneer doctor have underlain all of the hospital's policies.
 b. It was a principle that underlay much of his work in the past.
 c. The underlying assumption is that the amount of money available is limited.

suppress, suppressant, suppression, suppressor

- a. A drug used to prevent one of the body's organs from working normally is called a suppressant.
 b. Since she is overweight and wants to lose weight, the doctor prescribed some drugs to suppress her appetite.
 c. The suppression of emotions sometimes leads to harmful results.
 d. Nowadays the high incidence of severe acute and chronic pain has spanned a rich industry of chemical pain suppressors.

E. Cloze Test: Fill in the blanks using the words in the list.

- | | | |
|-----------------------|-------------------------|------------------------------------|
| unless → حاصل | giant | contain → control |
| extensive → به گستره | clues | offering |
| foundations → پایه ها | brainstorm → تفکر گروهی | ground |
| catching | as well as | enroll → ثبت نام کردن - عضویت دادن |

Bland started the functional-medicine movement about 30 years ago after he grew frustrated with what he calls "organ-based specialty care." Think of disease as a weed growing in the body's soil, Bland says. "what's above ground is easier to see and, in many ways, easier to treat. But unless you dig down and uproot the weed, you'll never contain it; you'll only prevent its growth."

In 1990, Bland asked a group of medical experts to brainstorm a better way. Ultimately, the group laid down the foundation of functional medicine.

The experts felt that ----7----^{catching} the early warning signs of chronic illness would best for patients ----8----^{as well as} the healthcare system. They decided that employing ----9----^{extensive} intake questionnaires and listening to patients' stories could provide important ----10----^{clues}.

Soon after, Bland and his wife, Susan, founded the IFM and began ----11----^{offering} introductory courses in functional medicine. To ----12----^{enroll}, an applicant had to be a graduate of an accredited healthcare program: Doctors, nurses, naturopaths, osteopaths, chiropractors, and nutritionists could all participate. → *take part*

E. Prefix/Suffix Exercise

Prefixes

In the chart below, you will find some words which appeared in this unit. The meanings of their prefixes are given. Guess the meanings of the words and provide more examples.

Word	Prefix	Meaning of the prefix	Meaning of the word	Other examples
autoimmune	auto	self; working by it-self	بیماری خود ایمنی	
hypothyroidism	hypo	less than usual	کم کاری تیروئید	
prediabetes	pre	before	بیماری که قبل از دیابت ایجاد می شود	
hyperspecialized	hyper	more than usual	برای سال ها پیشرفته تر درس خواندن مثلاً PHD دارن	
overgrowth	over	too much; more than normal	خللی به طبع رسیدن	
cardiovascular	card/ cardio	heart	قلب و عروق	

Suffixes

In the next chart, you see some words from the unit having suffixes. Guess their meanings and provide more examples.

Word	Suffix	Meaning of the suffix	Meaning of the word	Other examples
arthritis	itis	the <u>inflammation</u> of	التهاب مفاصل	
rheumatologist	ist	specialist in a field	متخصص مفاصل واستخوان	
physiology	logy	the study of	طبیعت فیزیولوژی	
genetics	ics	the science of	دانش ژنتیک	
practitioner	er	someone who .. <i>practice</i>	فردی که تمرین کند	
hypothyroidism	ism	the condition of; tendency toward	کم کاری تیروئید	capitalism liberalism

Further Reading

Two Paths to Medicine: Meet our hypothetical patient.

In his 50s, **he** is struggling with high blood pressure, high cholesterol, heartburn, joint pain, and type 2 diabetes. So, how would he fare at a typical conventional doctor's office versus a functional- medicine doctor's office? Here are some key differences. “he” refers to ...

Conventional Medicine Approach

When it comes to acute trauma, like a broken leg, or infectious diseases, such as malaria, conventional medicine is incomparable. Not so when it comes to the epidemic of chronic disease. “The structure of medical-school curriculum hasn't changed in more than half a century,” says the American Medical Association's James Madara, MD, “Caring for **this new population** requires an entirely different mindset,” Confronted with our hypothetical patient's set of symptoms, many conventional docs would certainly consider lifestyle-based solutions. But their primary treatment would most likely be a drug-centered approach, breaking the larger problem into individual components and treating each issue with a separate medication. This strategy is accepted and supported by health-insurance and pharmaceutical companies.

“this new population” refers to