



# Osmosis--让学医不再枯燥!

我们的使命是为全世界的临床医生和护理人员提供最好的学习体验。



高质量医学视频平台



# 爱思唯尔医学系列

## 临床解决方案

- 全医学数据平台 **ClinicalKey**
- 护理数据平台 **ClinicalKey for Nursing**
- 影像数据平台 **STATdx**
- 病理数据平台 **ExpertPath**
- 文献数据库 **Scopus**
- 循证医学数据库 **EMbase**

## 医学教育产品

- **ClinicalKey学生版 CK Student**
- 3D解剖软件 **Complete Anatomy**
- 高质量医学视频平台 **Osmosis**

《胃肠病学》



期刊

《细胞》

《欧洲泌尿外科》

《柳叶刀》

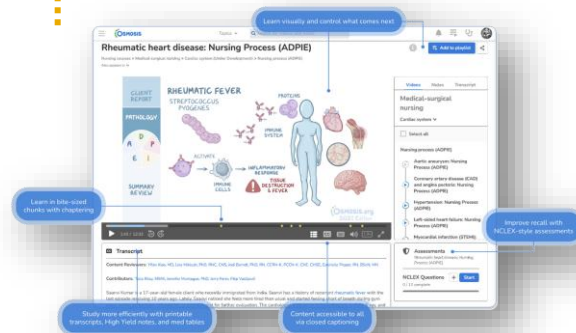
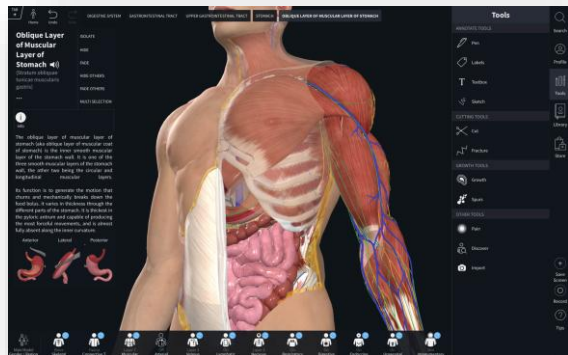
《克氏外科学》

图书



《克氏胸外科学》

《尼尔森儿科学》



# 医学生与教师面临的挑战

- **医学生**

- 医学知识内容繁多、复杂
- 需要对抗记忆曲线



- **医学院/临床医院教师**

- 节省备课、更新教案、教学、批改试卷的时间
- 平衡医、教、研时间



# How can Osmosis help?



学习

复习

自测

# Osmosis使用场景

- 医学生预习、复习重点知识
- 教师布置预习作业和测评
- 教师准备教案



# 强化知识学习

## Heart failure: Pathology review

Foundational Sciences > Pathology > Cardiovascular system > Cardiovascular system pathology review  
Also appears in

33,792 views

CASE STUDY

PATHOLOGY

SYSTOLIC H.F.

DIASTOLIC H.F.

LEFT H.F.

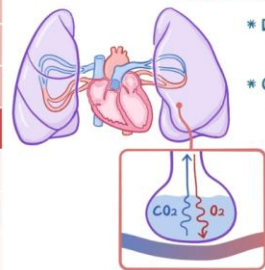
RIGHT H.F.

TREATMENT

REVIEW

SUMMARY

### SYMPTOMS LEFT HEART FAILURE



\* **DYSPNEA**  
~ TROUBLE BREATHING



\* **ORTHOPNEA**

~ DIFFICULTY BREATHING when LYING DOWN  
↳ ↑ blood backing up into pulmonary circulation



\* **PAROXYSMAL NOCTURNAL DYSPNEA**  
~ SLEEP USING MORE PILLOWS to KEEP BODY ELEVATED  
↳ ↓ venous return, ease lung congestion

OSMOSIS.org  
2021 Edition

7:01 / 15:40

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## 超过1,800个教学视频

- 生理与病理机制视频
- 基于病例的疾病发生发展视频
- 基于临床的临床操作视频

## 内置复习资料与考题

- 图文并茂的高效复习笔记
- 16,000+ 记忆卡片 循环复习
- 7,200+ 病例式题型



Welcome back, Zhu!

 Search for a topic...

View all topics ▾

Daily Practice



3 questions · 12 XP 

 0

Start quiz

# 系统分类 基础医学-器官系统-临床轮转

## Basic Sciences

### Foundational Sciences

Anatomy

Behavioral health

Biochemistry and nutrition

Biostatistics, epidemiology, population health, and interpretation of the medical literature

Cellular and molecular biology

Embryology

Genetics

Histology

Microbiology

Pathology

Pharmacology

Physiology

### Organ Systems

Blood and lymphoreticular system

Cardiovascular system

Endocrine system

Gastrointestinal system

Immune system

Musculoskeletal system

Nervous system and special senses

Renal and urinary system

Reproductive system and breast

Respiratory system

Skin and subcutaneous tissue

## Clinical Sciences

### Clinical Rotations ⓘ

Emergency medicine

Family medicine

Internal medicine **NEW**

Neurology

Obstetrics and gynecology **NEW**

Pediatrics

Psychiatry

Surgery **NEW**

More topics coming soon... ⓘ





# 基础-器官系统-临床 相互关联



基础科学

解剖学



器官系统

神经系统



临床轮转和董事会考试复习

神经病学

分享

解剖学导论

胸部

解剖学

解剖临床相关

腹部

解剖学

解剖临床相关

骨盆和会阴

解剖学

解剖临床相关

后腹

解剖学

解剖临床相关

下肢

解剖学

解剖临床相关

上肢

解剖学

解剖临床相关

脖子

解剖学

解剖临床相关

解剖学导论



骨骼学

也出现在



肌肉学

也出现在



神经学

也出现在



内分泌学

也出现在

胸部

解剖学



胸腔学

也出现在



胸腔学

也出现在



胸腔学

也出现在

解剖学

介绍

脑

脊髓

脑神经

周围神经

胚胎学

组织学

生理

解剖学和生理学

躯体神经系统

自主神经系统

下丘脑

小脑

基底神经节

高阶大脑功能

病理

中枢神经系统疾病

中枢和周围神经系统疾病

周围神经系统疾病

自主神经系统疾病

神经系统病理学复习

药理

解剖学 0%

介绍



躯体和自主神经系统

脑

解剖学



颅骨



大脑皮层



颅脑膜



基底神经节



边缘系统

神经病学

解剖临床相关

药理

自主药物

抗惊厥药

偏头痛药物

神经退行性疾病药物

其他药物

神经病学

14个主题



中风：临床实践

也出现在



头痛：临床实践

也出现在



痴呆和谵妄：临床实践

也出现在



运动减退性运动障碍：临床实践

也出现在



意识障碍：临床实践

也出现在



脑膜炎、脑炎和脑脓肿：临床实践

也出现在



脊髓疾病：病理学回顾

也出现在



癫痫发作：临床实践

也出现在



头晕和眩晕：临床实践

也出现在



多发性运动障碍：临床实践

也出现在



肌肉无力：临床实践

也出现在



脑肿瘤：临床实践

也出现在



腰痛：临床实践

也出现在



创伤性脑损伤：临床实践

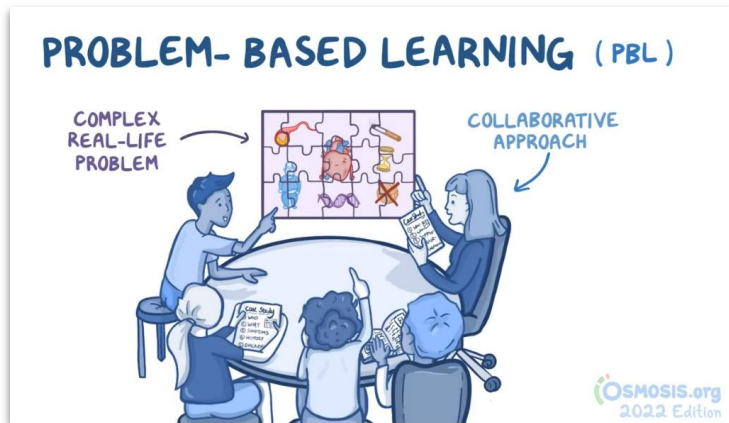
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解剖临床相关

# 更多内容

## 特辑

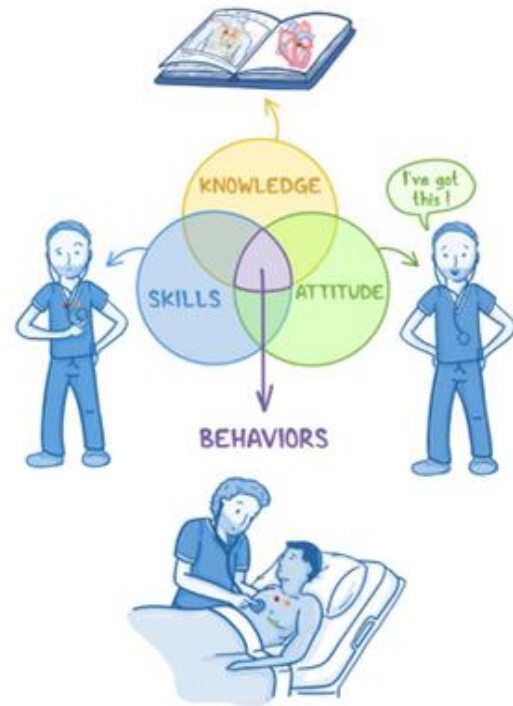
- 人际交往和沟通技巧
- 牙科
- 医学预科
- 科学学习方法
- 斑马年（罕见疾病）



# 科学学习方法

## 基于科学学习方法，提高知识转化效率:

- **系统化课程设计** 拆解知识，以视频形式刺激记忆
- **记忆卡片循环巩固** 间隔重复，根据艾宾浩斯曲线设计记忆卡片，帮助巩固长期记忆
- **自测题库助力考试** 病例式题目与详解，提高应试与诊疗水平
- **内置学习方法课程** 授人以渔，学会学习方法，提高学习能力



# 强化学习体验

动态视频讲解

主题时间轴  
节点

文字版字幕  
PDF版笔记

实时字幕

课后测验

**OSMOSIS**

Topics

## Rheumatic heart disease: Nursing Process (ADPIE)

Nursing courses > Medical-surgical nursing > Cardiac system (Under Development) > Nursing process (ADPIE)

Also appears in

**CLIENT REPORT**

**PATHOLOGY**

**SUMMARY REVIEW**

### RHEUMATIC FEVER

STREPTOCOCCUS PYOGENES

PROTEINS

IMMUNE SYSTEM

ACTIVATE

IMMUNE CELLS

INFLAMMATORY RESPONSE

TISSUE DESTRUCTION & FEVER

**OSMOSIS.org**  
2021 Edition

1:43 / 12:33

**Transcript**

Content Reviewers: Yifan Xiao, MD, Lisa Miklusch, PhD, RNC, CNS, Jodi Berndt, PhD, RN, CCRN-K, PCCN-K, CNE, CHSE, Gabrielle Proper, RN, BScN, MN

Contributors: Talia Riley, MSMI, Jennifer Montague, PhD, Jerry Ferro, Filip Vasiljevic

Saanvi Kumar is a 17-year-old female client who recently immigrated from India. Saanvi has a history of recurrent rheumatic fever with the

noticed she feels more tired than usual and started feeling short of breath during gym

for further evaluation. The cardiolo

play, and

**Videos** | Notes | Transcript

### Medical-surgical nursing

Cardiac system

Select all

#### Nursing process (ADPIE)

- Aortic aneurysm: Nursing Process (ADPIE)
- Coronary artery disease (CAD) and angina pectoris: Nursing Process (ADPIE)
- Hypertension: Nursing Process (ADPIE)
- Left-sided heart failure: Nursing Process (ADPIE)
- Myocardial infarction (STEMI):

#### Assessments

Rheumatic heart disease: Nursing Process (ADPIE)

NCLEX Questions + Start

0 / 12 complete

# 强化学习体验：浏览器一键中文翻译

## 抗惊厥药和抗焦虑药：苯二氮卓类

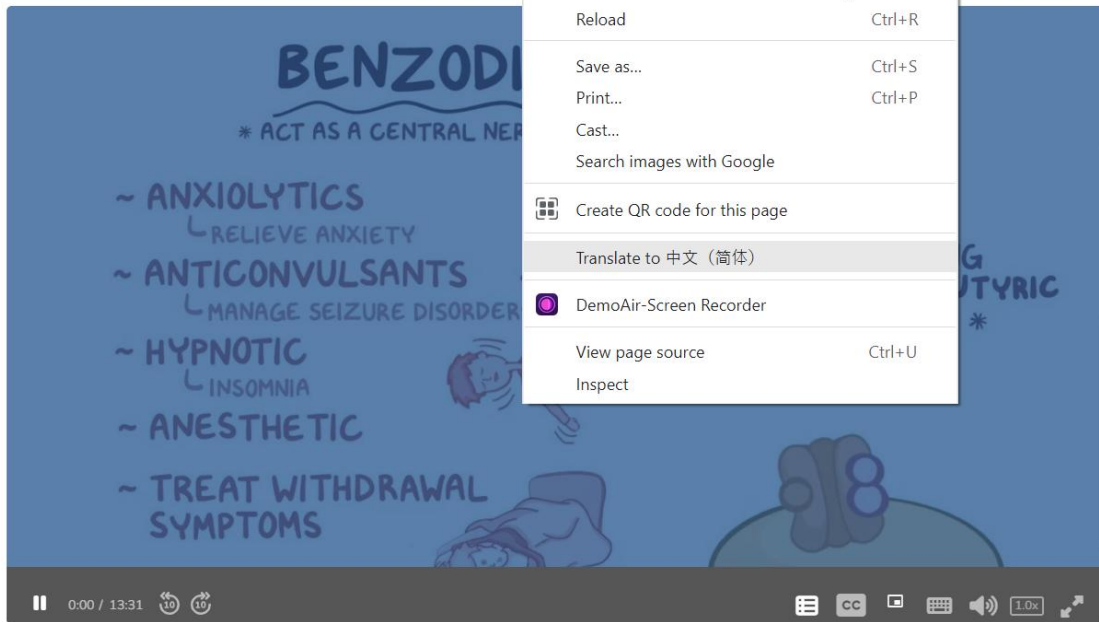
基础科学 > 行为科学药 > 理学 > 抗焦虑药和催眠药  
也出现在

28,997 次观看

添加到播放列表



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Forward	Alt+Right Arrow
Reload	Ctrl+R
Save as...	Ctrl+S
Print...	Ctrl+P
Cast...	
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Translate to 中文 (简体)	
DemoAir-Screen Recorder	
View page source	Ctrl+U
Inspect	



影片	笔记	成绩单
<p>内容审阅者: Yifan Xiao, MD, Filip Vasiljević, 医学博士</p> <p>贡献者: Evan Debevec-McKenney, Robyn Hughes, MScBMC, Maria Emfietzoglou, MD, Brittany Norton, MFA, Alaina Mueller</p> <p>苯二氮卓类药物是一类可作为中枢神经系统抑制剂的药物。</p> <p>它们具有多种用途,包括抗焦虑作用或缓解焦虑;作为抗惊厥药,或治疗癫痫症;作为失眠的催眠药;作为麻醉剂;并治疗戒断综合症。</p> <p>它们通过与其受体结合来增强主要抑制性神经递质 <math>\gamma</math>-氨基丁酸 (GABA) 的作用。</p> <p>众所周知,您的大脑非常重要。</p> <p>它控制着您的感觉、你的动作、你的睡眠、你的记忆.....它控制着一切,无论你是否意识到这一点。</p> <p>构成我们大脑的细胞称为神经元。</p> <p>神经元通过神经递质相互交流。</p> <p>当一个神经元受到刺激时,它会产生兴奋</p>		

# High-Yield Notes 高效笔记

→ ↺ 🔒 https://www.osmosis.org/learn/Translation\_of\_mRNA

OSMOSIS from ELSEVIER MedEd ✓ Topics 🔍 Search for videos and notes

11/9/22, 10:08 AM Transcription Translation and Replication Notes: Diagrams & Illustrations | Osmosis

## TRANSCRIPTION

osms.it/transcription

- First step in creating protein from gene
- Gene read, copied on individual messenger RNA (mRNA)
- DNA unpacked from chromatin, undergoes helicalization
- Promoter region identifies starting point for transcription (e.g. TATA box)
- RNA polymerase shears hydrogen bonds between two strands → transcription bubble
- RNA polymerase follows template strand to assemble mRNA molecule (complementary to template strand)
- Hydrogen bonds reform on nucleotides (already transcribed)
- Termination sequences contains two complementary sequences → resulting mRNA binds with itself forming hairpin loop
- RNA polymerase detaches, DNA closes back up
- Polyadenylate polymerase adds 7-methyl guanosine cap to 5' end of mRNA
- Spliceosomes remove introns (don't code proteins) to leave behind exons (do code proteins)
- Resulting mRNA processed by ribosome to create desired protein (translation)

**PROCESS**

- 1. PREPARATION**  
RNA POLYMERASE  
TRANSCRIPTION BUBBLE
- 2. MAKING mRNA**  
CODING STRAND  
TEMPLATE STRAND  
mRNA
- 3. TERMINATION**  
→ mRNA DETACHES  
HAIRPIN LOOP
- 4. mRNA MODIFICATION**  
SPLICEOSOME  
EXONS  
POLY-ADENINE TAIL  
7-METHYL GUANOSINE (CAP)  
POLYDEADENYLATE POLYMERASE

**Figure 427** Transcription. 1: DNA unpacking, helicalization; promoter region identified (TATA box). RNA polymerase shears hydrogen bonds between strands → transcription bubble. 2: RNA polymerase assembles mRNA strand complementary to template strand. Hydrogen bonds reform between DNA nucleotides already transcribed. 3: Termination sequence causes mRNA to form hairpin loop, detach. 4: Cap and tail added, introns spliced out.

OSMOSIS.org 2022 Edition

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# High-Yield Notes 笔记

→ ↺ 🔒 https://www.osmosis.org/learn/Translation\_of\_mRNA

OSMOSIS from ELSEVIER MedEd ✓ Topics 🔍 Search for videos and notes

11/9/22, 10:08 AM Transcription Translation and Replication Notes: Diagrams & Illustrations | Osmosis

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- Termination sequences contains two complementary sequences → resulting mRNA binds with itself forming hairpin loop
- RNA polymerase detaches, DNA closes back up
- Polyadenylate polymerase adds 7-methyl guanosine cap to 5' polyadenine tail to 3' end of mRNA
- Spliceosomes remove introns (don't code proteins) to leave behind exons (do code proteins)
- Resulting mRNA processed by ribosome to create desired protein (translation)

**PROCESS**

1. PREPARATION

2. MAKING mRNA

3. TERMINATION

4. mRNA MODIFICATION

**Figure 427** Transcription. 1. DNA unpacking, dehelicalization; promoter region identified (TATA box). RNA polymerase shears hydrogen bonds between strands → transcription bubble. 2. RNA polymerase assembles mRNA strand complementary to template strand. Hydrogen bonds reform between DNA nucleotides already transcribed. 3. Termination sequence causes mRNA to form hairpin loop, detach. 4. Cap and tail added, introns spliced out

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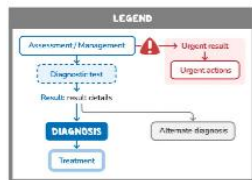


# Clinical decision-making trees临床决策树

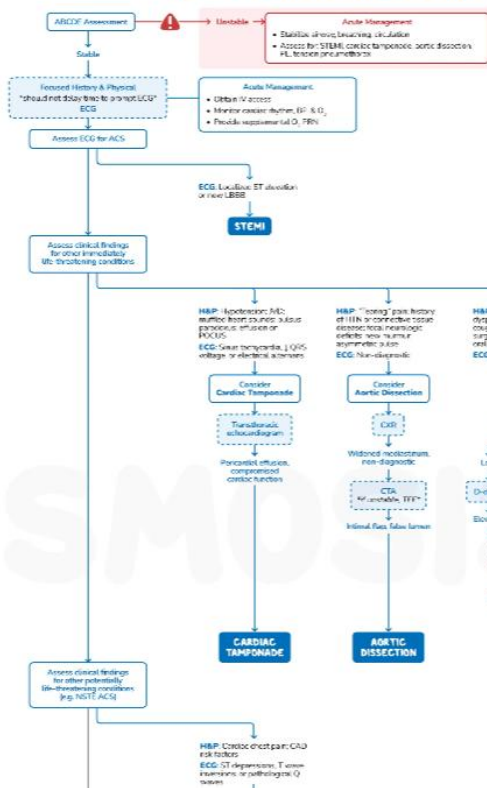


\* BRO

↳ Po



## APPROACH to CHEST PAIN



### ABBREVIATIONS

**ABCD:** Airway, breathing, circulation, disability, exposure  
**ACS:** Acute coronary syndrome  
**BP:** Blood pressure  
**CC:** Coronary artery disease  
**CTPA:** CT pulmonary angiogram  
**CXR:** Chest x-ray  
**ECG:** Electrocardiogram  
**GERD:** Gastroesophageal reflux disease  
**Hx:** History and physical  
**HTN:** Hypertension  
**JVD:** Jugular venous distention  
**LEs:** Left bundle branch block  
**NSTEMI/ACS:** Non-ST-elevation acute coronary syndrome  
**NSTEMI:** Non-ST-elevation myocardial infarction  
**PE:** Pulmonary embolism  
**PEU:** Portable chest x-ray  
**STEMI:** ST-elevation myocardial infarction  
**TEE:** Transesophageal echocardiography  
**V/Q:** Scan: Ventilation-perfusion scan

## Decision-Making Tree



ELSEVIER





# Flashcards 抽认卡-评估把握度、准确度

The screenshot displays the Osmosis MedEd interface. On the left, a video player shows a video titled "High Yield Notes" with a progress bar at 0:45 / 7:21. The main content area features a flashcard with the text: "Adherens junctions are formed by groups of proteins that anchor cells together side by side, connecting the actin skeletons of each." Below the flashcard, a feedback section asks "Correct Shortcut key: 1 you do?" with two buttons: "✓ Got it" (repeats in 6d) and "✗ Missed it" (repeats in 1d). The sidebar on the right lists various topics under "Epidemiological measurements", including "Positive and negative predictive value", "Test precision and accuracy", "Incidence and prevalence", "Relative and absolute risk", "Odds ratio", "Attributable risk (AR)", and "Mortality rates and case-". At the bottom of the sidebar, there are sections for "Assessments" (Sample size) and "Flashcards" (0 / 6 complete), both with "Start" buttons. A "CME Credits" section shows 0 / 0.25 complete with a "Start" button. The Osmosis from ELSEVIER logo is visible in the bottom right corner.

# Flashcards 抽认卡-记忆口诀

9 of 15

< Prev

Next >

Settings

The initiator tRNA can begin mRNA [translation](#) when it encounters the start codon triplet \*\*\*  
AUG.

Students begin school in **AUG**ust.

How did you do?

✓ Got it

✗ Missed it

Trusts from disuse, stagnant  
water loses its purity and in  
d weather becomes frozen;  
... definition ...

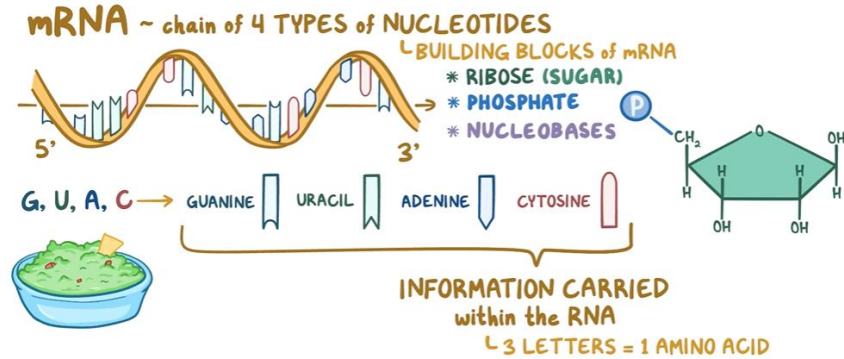
给出记忆口诀  
/记忆锚

# 2000+道测验题目 帮助消化理解内容



<input type="checkbox"/> Core Content	
▸ <input type="checkbox"/> Adult Health (837)	▸ <input type="checkbox"/> Pediatrics (156)
▸ <input type="checkbox"/> Maternal Newborn (71)	<input type="checkbox"/> Mental Health (32)
<input type="checkbox"/> Health Assessment (311)	▸ <input type="checkbox"/> Pharmacology (64)
<input type="checkbox"/> Foundations of Care (175)	<input type="checkbox"/> Critical Care (17)
<input type="checkbox"/> Leadership and Management (60)	
<input type="checkbox"/> Nursing Concepts	
▸ <input type="checkbox"/> Homeostasis and Regulation (382)	▸ <input type="checkbox"/> Oxygenation and Homeostasis (321)
▸ <input type="checkbox"/> Protection and Movement (390)	▸ <input type="checkbox"/> Emotional Processes (15)
▸ <input type="checkbox"/> Cognitive and Behavioral Processes (30)	▸ <input type="checkbox"/> Client Attribute Concepts (15)
<input type="checkbox"/> NCLEX Test Plan	
▸ <input type="checkbox"/> Safe and Effective Care Environment (277)	<input type="checkbox"/> Health Promotion and Maintenance (138)
<input type="checkbox"/> Psychosocial Integrity (7)	▸ <input type="checkbox"/> Physiological Integrity (731)
<input type="checkbox"/> Cognitive Level	
<input type="checkbox"/> Remember (66)	<input type="checkbox"/> Understand (172)
<input type="checkbox"/> Apply (709)	<input type="checkbox"/> Analyze (206)

# 每日测验-视频下相应习题（复杂）



OSMOSIS.org  
2022 Edition

An investigator is studying the role of tRNA in the process of protein synthesis. In a study, he discovers that tRNA carries amino acids from the cytosol, and adds these proteins to ribosomes during mRNA translation. Where are amino acids in tRNA carried?

Elimination tool ☐

- ☐ Codon region
- ☐ T-arm
- ☐ 3' CCA tail
- ☐ D-arm
- ☐ Anticodon region

Skip →

# 每日测验-视频下相应习题（复杂）

In an attempt to understand proteome variations of the human body, a group of researchers decides to synthesize a protein in the lab and compare it to proteins created via in-vivo. mRNA isolated from a cell is translated under laboratory conditions. However, it is found that the same mRNA produces a protein with different properties and structures in-vivo when compared to in-vitro synthesis. Which of the following best explains this finding?

Elimination tool ☐

☐ Different promoters resulting in transcription initiation

Show explanation ▾

✓ ☒ Post-translational modification

Show explanation ▾

☐ Alternative splicing

Show explanation ▾

☐ Different transcription termination

Show explanation ▾

☐ Pre-mRNA splicing

Show explanation ▾

## Major takeaway

Post-translational modification refers to a process in which proteins are altered and modulated after they have been synthesized from mRNA.

## Main explanation

Post-translational modification (PTM) refers to the alteration or modulation of proteins following translation. This is often accomplished by attachment of amino acid residues or by proteolytic cleavage of the protein. The process of PTM is important in producing the functional aspects of the function of proteins.

PTM can occur at any time in the protein cycle. For example, some proteins are directly modified following translation, while others are modified when they are stored. The most important PTMs include glycosylation, methylation, acetylation, methylation, and ubiquitination.

5 of 5

## Quiz complete!

Correct

40%(2)

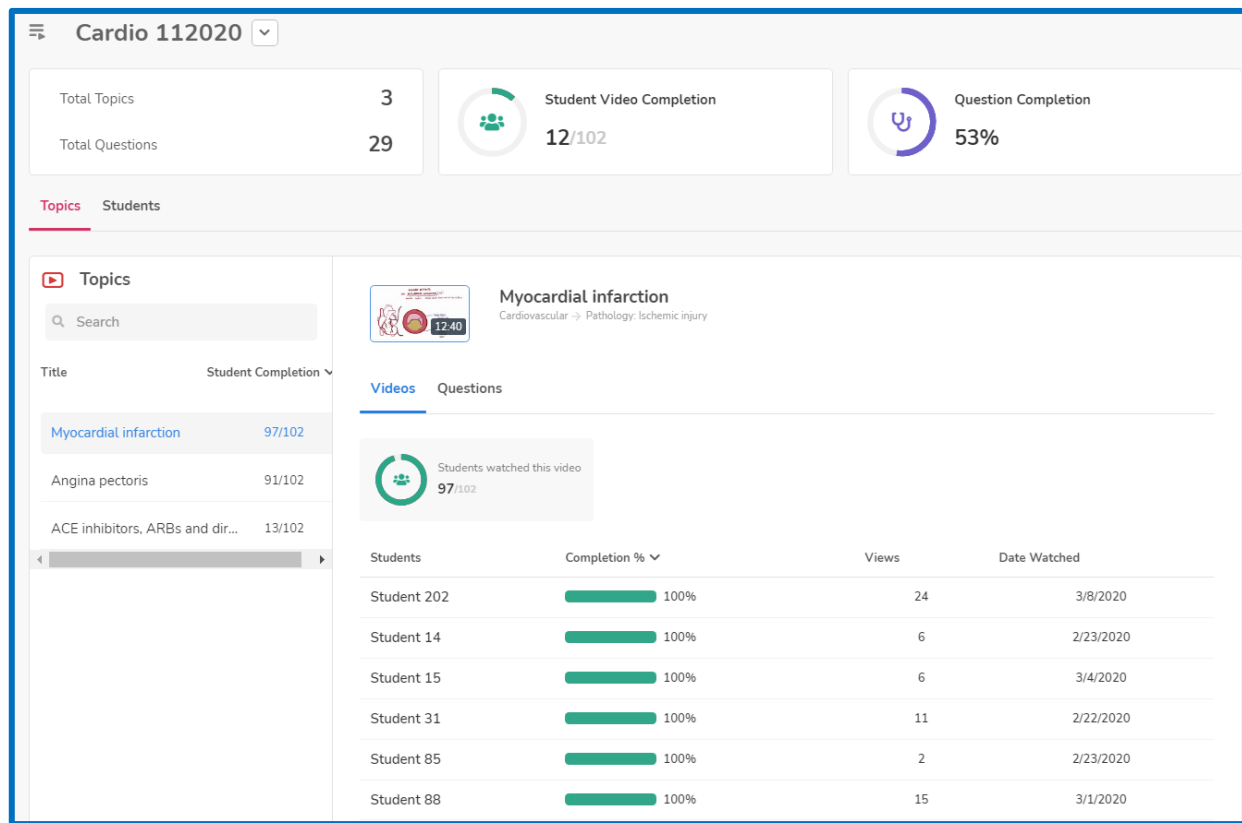
Incorrect

60%(3)

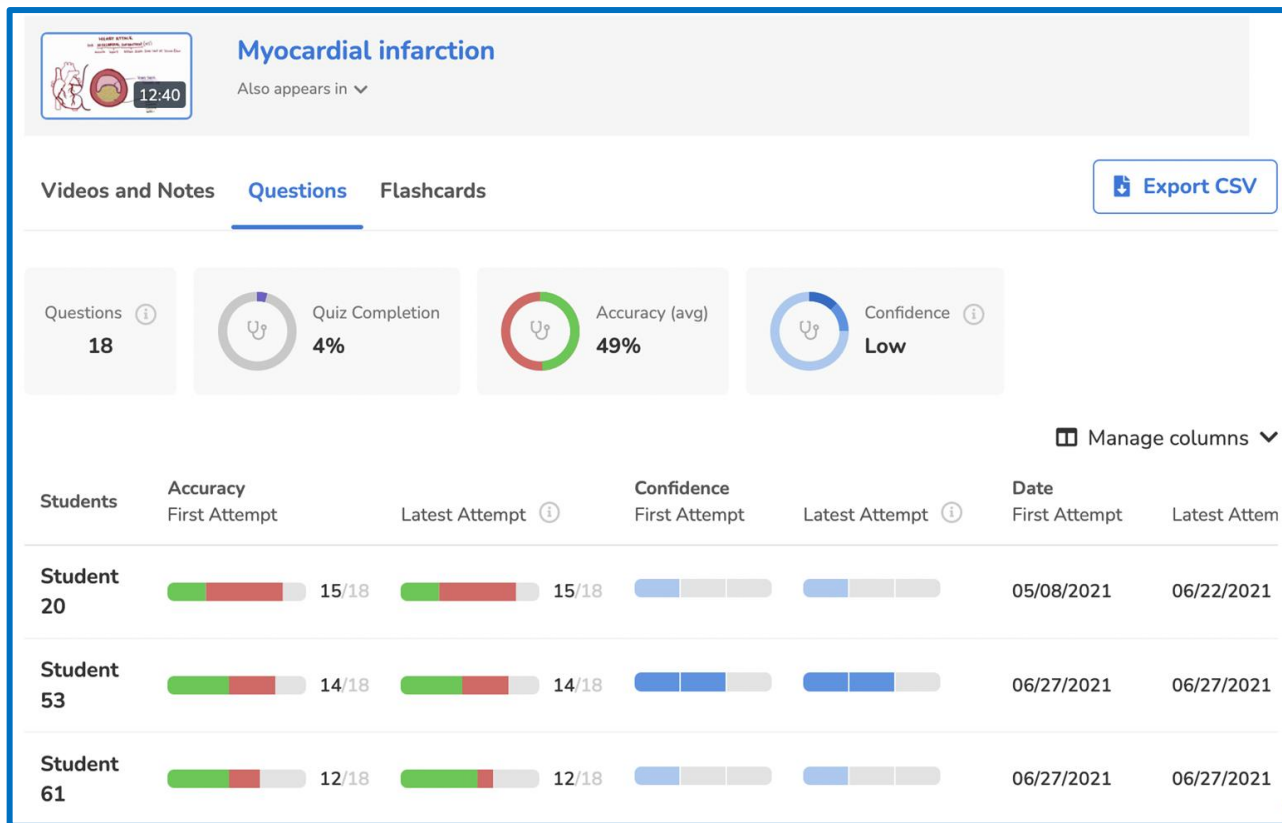
↺ Repeat missed

+ New quiz

# 跟踪学生学习任务



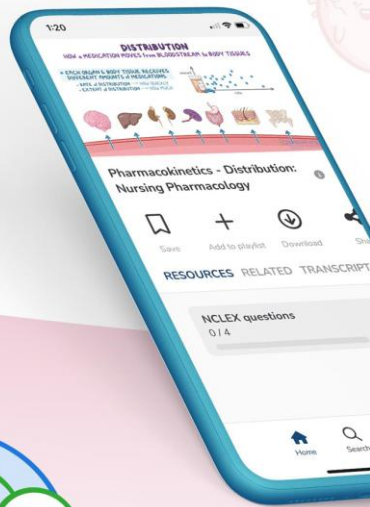
# 尽早获得反馈以应对



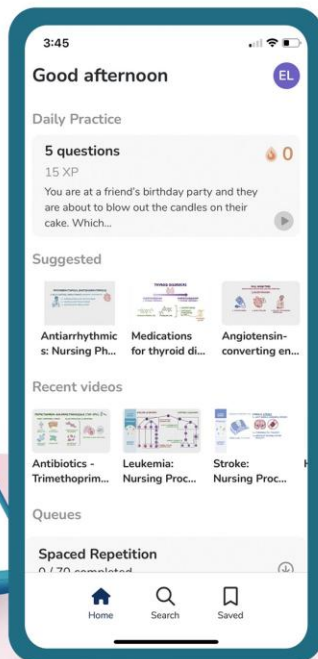
# 手机APP随时随地学习



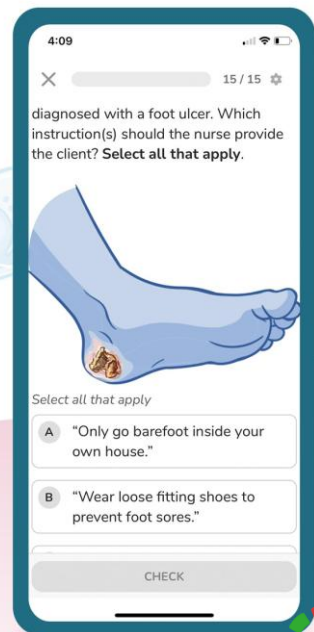
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# Osmosis 受到全球广泛喜爱



## Osmosis Around the World

Osmosis is more than an educational platform—it's a global movement!



### Around the world

Learners	2,845,371
Videos viewed	275,328,858
Flashcards and questions answered	207,623,418

- ☒ Learners
- ☒ Teammates
- ☒ Faculty
- ☒ Advisers

# Osmosis总结



## 学习

- 生动视频
- 交叉分类
- 双语学习

## 复习

- 高效笔记
- 抽认卡

## 自测

- 每日3题
- 学科自测
- 形成知识网

# 以实证为基础的优质内容

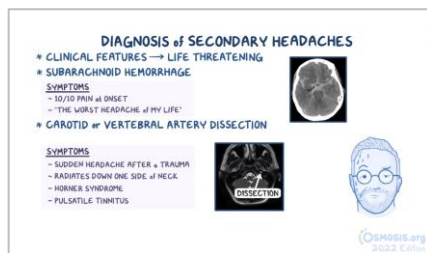
- 知识覆盖全面、完整
- 专业、直观的医学动画
- 高效笔记、临床决策树和抽认卡克服记忆障碍
- 以题目检验内容
- 手机APP方便随时随地学习



分享专业内容



节省时间



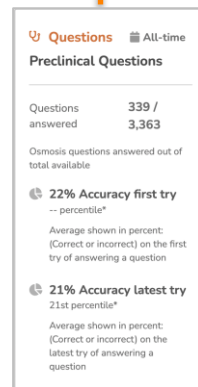
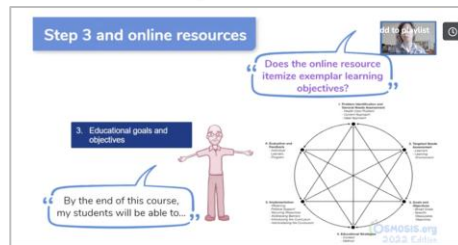
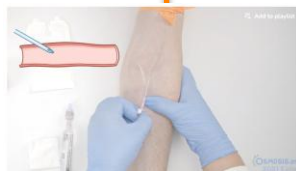
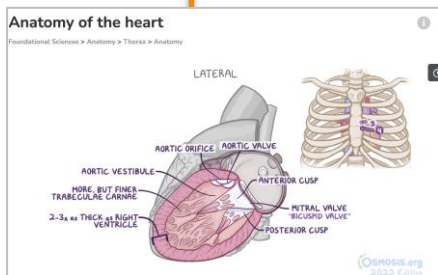
培训青年医生



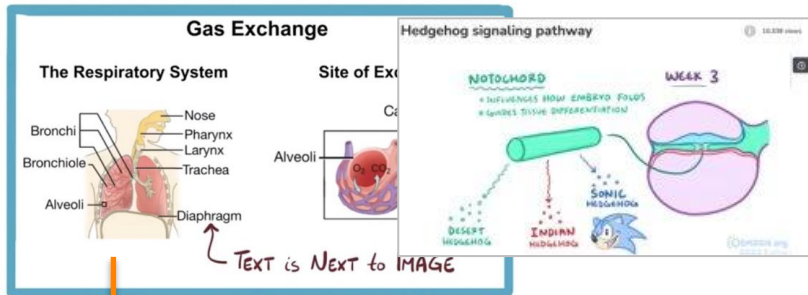
制作讲义素材



监控学生掌握情况



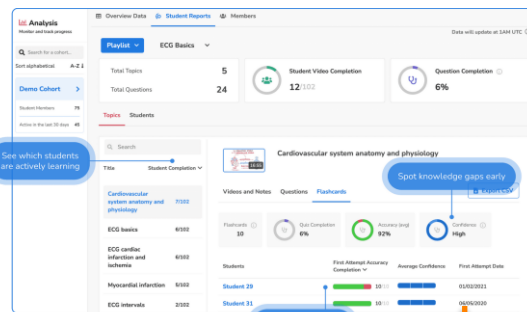
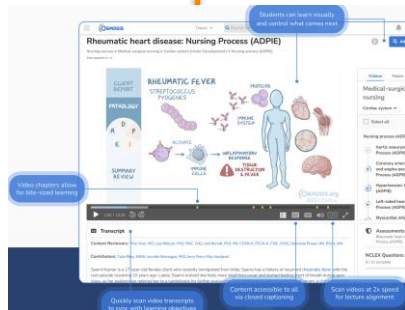
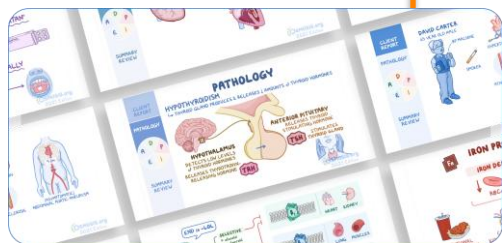
Educators



模块化学习内容

图片、视频帮助理解

多种形式帮助记忆医学内容



病例题库

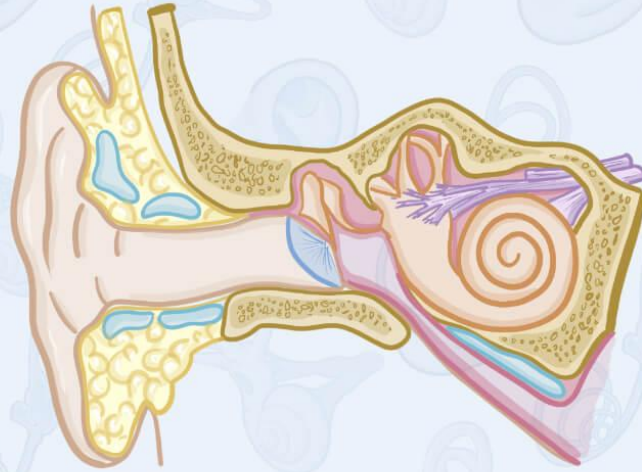
Student Analytics



Students



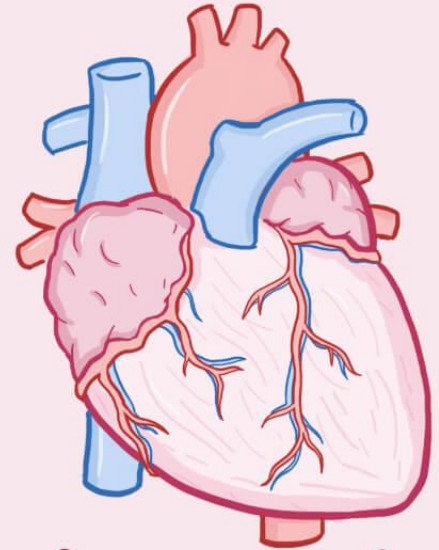
# THANK YOU!



## THANKS FOR LISTENING

# THANK YOU

from the



## BOTTOM of my HEART