

# 0128. See How Stress Affects Inflammatory Bowel Disease 了解压力如何影响炎症性肠病

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## 1. See How Stress Affects (v.) Inflammatory Bowel Disease 了解压力如何影响炎症性肠病

In inflammatory bowel disease, mental stress /can produce (v.) two painful responses.

Bouts (n.) 一阵；一场；（尤指坏事的）一通，一次 of *disabling* 使伤残，使失去能力 *pain, bleeding, weight loss and hospitalization* 住院治疗 /that sometimes require (v.) surgery: that' s the lot of about three million adults in the U.S. who suffer from *inflammatory bowel disease*, or IBD.

在炎症性肠病中，精神压力会产生两种痛苦的反应。

一阵阵式的疼痛、出血、体重减轻和住院治疗，有时需要手术:这就是美国大约300万患有炎症性肠病(IBD)的成年人的情况。

### Example 1. 案例

#### bout

(n.)1.~ (of sth/of doing sth) : a short period of great activity; a short period during which there is a lot of a particular thing, usually sth unpleasant 一阵；一场；（尤指坏事的）一通，一次

- a drinking bout 狂饮一通
- the latest bout of inflation 最近一阵通货膨胀

2.~ (of sth) : an attack or period of illness （疾病的）发作；发病期

- a severe bout of flu/coughing 流感/咳嗽的猛烈发作

The illness has two main forms, Crohn' s disease and ulcerative 溃疡性的；引起溃疡的 colitis 结肠炎. It is frequently associated with an overactive immune system /and may have a genetic component 遗传成分. Treatments often involve some variety （同一事物的）不同种类，多种式样 of immunosuppressant 免疫抑制剂 such as a steroid 类固醇 drug. But even *controlled cases* have periodic 阶段性的，定期的 flare-ups (n.)突发；（尤指）复发; 骤燃；突然发出火焰, and the reasons have been hard to pin down 确切说明（或理解）.

这种疾病有两种主要形式：克罗恩病, 和溃疡性结肠炎。它通常与过度活跃的免疫系统有关，并且可能具有遗传成分。治疗通常涉及多种免疫抑制剂，例如类固醇药物。但即使是受控制的病例, 也会周期性地爆发，而且其原因很难确定。

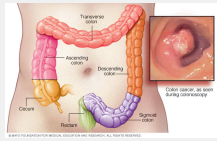
### Example 2. 案例

#### colitis

( medical 医) a disease that causes pain and swelling in the colon (= part of the bowels ) 结肠炎

→ colon, 结肠. -itis, 炎症。

结肠 ( colon ) 是介于"盲肠"与"直肠"之间的一段大肠. 结肠的排列酷似英文字母 "M" , 将小肠包围在内。



immunosuppressant

/ˌɪmjʊ-noʊ-səˈpre-sənt/

(n.)免疫抑制剂

"免疫抑制剂"是对机体的"免疫反应"具有抑制作用的药物, 能抑制与免疫反应有关细胞 ( T细胞和B细胞等巨噬细胞 ) 的增殖和功能, 能降低抗体免疫反应。

"免疫抑制剂"主要用于器官移植"抗排斥反应"和"自身免疫病"如类风湿性关节炎、红斑狼疮、皮肤真菌病、膜肾球肾炎、炎性肠病, 和自身免疫性溶血贫血等。

pin sth down

to explain or understand sth exactly 确切说明 ( 或理解 )

• The cause of the disease is difficult to pin down precisely. 病因目前还难以解释清楚。

Now scientists have traced (v.) two detailed *molecular pathways* **from** the brain **to** the gut /that produce (v.) IBD flares 突发 ; 加剧; ( 短暂的 ) 旺火 ; ( 摇曳的 ) 光 ; ( 闪耀的 ) 火光. And in three different groups of IBD patients, they found that /psychological stress — a death in the family /or a bad fight with a loved one, for instance — can trigger (v.) the release of brain chemicals that cause IBD symptoms.

现在, 科学家们已经追踪到了两条从大脑到肠道的详细分子途径, 它们会造成 IBD疾病 的突发。 在三组不同的 IBD 患者中, 他们发现心理压力 ( 例如, 家人去世或与亲人发生争吵 ) 会引发大脑化学物质的释放, 从而导致 IBD 症状。

This doesn' t mean IBD is all in the head, emphasizes (v.) Christoph A. But it does mean /主 psychotherapy 心理治疗 ; 精神治疗 and *targeted stress-management techniques* 谓 **have important** (a.) — and until now **underappreciated** 未受到充分赏识的 ; 未得到正确评价的 — **roles** (n.) /后定 to play (v.) in preventing and treating (v.) agonizing 使人十分痛苦的 ; 令人焦虑不安的 ; 带来巨大困难的 flares.

Christoph A. 强调说, 这并不意味着 IBD 完全存在于大脑中。 但这确实意味着, 心理治疗和有针对性的压力管理技术, 在预防和治疗令人痛苦的发作方面, 发挥着重要作用, 但迄今为止, 这些还尚未得到充分认识。

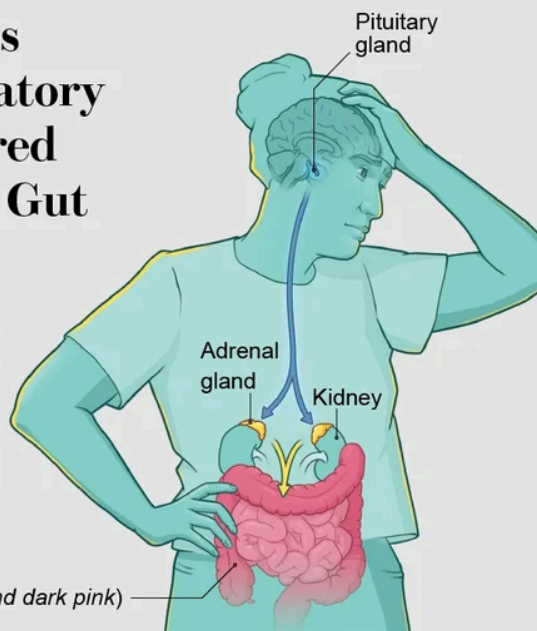
Example 3. 案例

But it does mean psychotherapy and targeted stress-management techniques have important — and until now underappreciated — roles to play (v.) in preventing and treating agonizing flares.

这里的 roles, 其实是跟着前面的 have important 的. 即 have important roles.

# Psychological Stress Can Cause an Inflammatory Response and Impaired Food Movement in the Gut

In response to chronic stress, the brain releases a stress hormone called CRH. CRH causes the pituitary gland to stimulate the adrenal glands on the kidneys to release another class of hormones (glucocorticoids). The two pathways shown in yellow (*below*) outline what happens next.

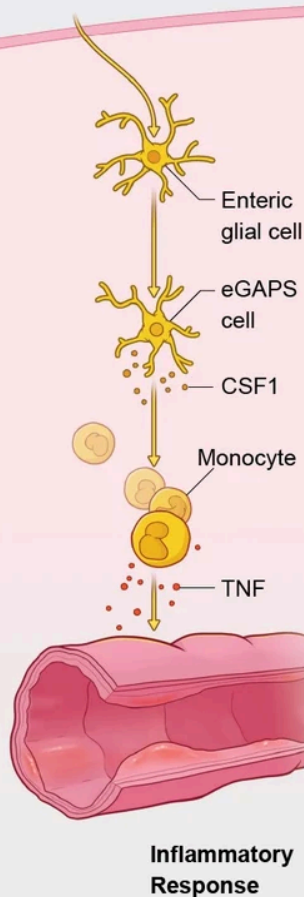


Glucocorticoids travel from the adrenal glands into the gut.

In response to stress signals, enteric glial cells turn into eGAPS cells.

eGAPS cells send out signals (CSF1) to recruit immune cells (monocytes) to the intestine.

Monocytes release signals (TNF) that can lead to intestinal cell damage, inflammation and pain.

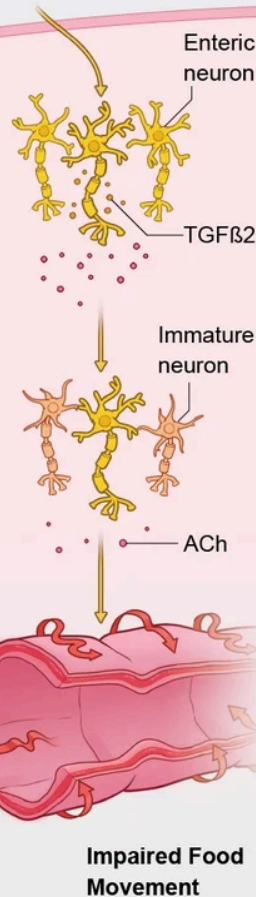


Glucocorticoids travel from the adrenal glands into the gut.

In response to stress signals, TGFβ2 is released from enteric neurons. TGFβ2 reduces neuronal activity.

The population of mature healthy neurons goes down, and the number of immature neurons goes up.

Reduced numbers of healthy neurons cause a reduction in acetylcholine (ACh). This disrupts the signaling pathways that control food movement through the gut (dysmotility).



## 2. See How Stress Affects Inflammatory Bowel Disease

In inflammatory bowel disease, mental stress can produce two painful responses

Bouts of disabling pain, bleeding, weight loss and hospitalization that sometimes require surgery: that's the lot of about three million adults in the U.S. who suffer from

inflammatory bowel disease, or IBD. (The illness has two main forms, Crohn's disease and ulcerative colitis. It is frequently associated with an overactive immune system and may have a genetic component.) Treatments often involve some variety of immunosuppressant such as a steroid drug. But even controlled cases have periodic flare-ups, and the reasons have been hard to pin down.

Now scientists have traced two detailed molecular pathways from the brain to the gut that produce IBD flares. And in three different groups of IBD patients, they found that psychological stress—a death in the family or a bad fight with a loved one, for instance—can trigger the release of brain chemicals that cause IBD symptoms. This doesn't mean IBD is all in the head, emphasizes Christoph A. Thaiss of the University of Pennsylvania, one of the researchers. But it does mean psychotherapy and targeted stress-management techniques have important—and until now underappreciated—roles to play in preventing and treating agonizing flares.

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