



WAZ UP DOC?

Cameron Mashouf, DDS

Andrew Kouvaris, DDS

1670 Westwood Drive

San Jose, CA 95125

408-266-8820

www.drmashouf.com

Homeostasis

Body's natural equilibrium

Have you ever wondered what keeps our body in a constant state of balance despite all the different food we eat, the various environments we encounter, or the multiplicity of activities we engage in? What system is responsible for maintaining such a state of constancy, and for giving us that feeling of stability even though our body may be fighting infections in several fronts or dealing with a few organ function challenges? The answer is that our body's balance is maintained through an intricate system of hormonal and neural monitoring, feedback, and constant corrections.

The concept of constancy of the internal environment was introduced in 1854 by Claude Bernard, a French scientist and the founder of modern physiology. Bernard's experiments showed how our body temperature stays at a constant 98.6 degrees or the level of sugar in our blood remains below 1gm per liter no matter how cold the external temperature or how much sugar we take in.

The term Milieu interior of Claude Bernard supposes a perfection of the organism in which the external variations are at each instant compensated for and equilibrated to maintain a constant internal environment. All of the vital body functions however varied they may be, always have one goal: to maintain the uniformity of the conditions in the internal environment. The maintenance of the constancy of the internal environment is called homeostasis.

Claude Bernard's concept of independence of the internal environment from the external was further advanced by the American physiologist Walter B. Cannon in his 1932 book, The Wisdom of the Body. As an extension of homeostasis, Cannon coined the term "fight or flight" to describe an animal's response to a threat. The constancy principle also gave rise to the "Cybernetics", an interdisciplinary field which includes the study of negative feedback mechanisms. Cybernetics explains how a feedback mechanism is responsible for monitoring and regulating functions in both machines and biological systems.

Homeostasis is constantly challenged in our daily life. For example, when we take a new drug our body is forced into making adjustments in order to reestablish its internal equilibrium. In response to a pain medication, the nervous system has to send a feedback message to reduce the release of natural pain-control substances. In response to anti-histamine medications, the negative feedback is posted to control

The body makes its own cholesterol to maintain a predetermined level no matter how much or how little cholesterol there is in our diet. However, when the diet is low in cholesterol for a long time, the body will slowly lower its predetermined level.

As much as the modern medicine has given us all the life-saving medication to fight serious diseases, care should be exercised when dealing with non-critical conditions. Given the availability of so many antibacterial, antiviral, antifungal, anti-depressant, anti-pain, anti-acid, anti-inflammatory, anti-allergy, and particularly those maintenance medications such as anti-hypertensive or anti-cholesterol drugs, please keep the wisdom of your body in mind. Trust the body's natural abilities and allow your homeostasis to do its best before taking the control away from such a fantastic regulating system. In short, don't mess

DAMON CLEAR

Introducing the latest clear bracket system, Damon® Clear™. These new braces are crystal clear and don't have the metal parts of the previous hybrid Damon® braces. Of course, these braces still offer the same benefits of our previous Damon® braces... less force on the teeth, better hygiene control, and in most cases faster treatment times. So let us know if you'd like to see what these new braces look like because once there on the teeth you might not even notice them. AK



Poem

Return of Light

*The return of the light,
no longer reign the night.
The sun shines bright
to banish the fright.*

*Time to make merry.
Time to rejoice.
This's the season
to spread the joys.*

*Put on your fancies.
Visit your God and families.
The cold is now less fretful;
for spring soon follows.*

*Have our collective voices
vanish the darkness?
Have the priest' prayers
alter the source?*

*Some say darkness is
only a mask over the light.
But are they not the different
faces of the same God?*

G.L. Dentist, Philosopher, Poet
January 2010

Kids Korner

Complete our trivia questions and send it to our office or email it to info@drmashouf.com by February 25, 2010 and you may be the lucky winner in our drawing for \$30 cash!

1. Which of these is not a judge on American Idol anymore?
a) Kara DioGuardi c) Randy Jackson
b) Paula Abdul d) Simon Cowell
2. Along with Monica and Rachel, who is the third female in the TV Series "Friends"?
a) Jessica c) Phoebe
b) Lisa d) Donna
3. What actor plays Jacob in the movie "New Moon"?
a) Taylor Lautner c) Jackson Rathbone
b) Robert Pattinson d) Cam Gigandet
4. How many books are in the Twilight series?
a) 6 c) 4
b) 5 d) 3
5. Which of these characters is not a friend of Dora the Explorer's?
a) Tico c) Boots
b) Isa d) Roger

To our patients: We thank all of you for referring so many of your family members and friends to us. Your vote of confidence is sincerely appreciated. It allows us to grow more and give more.

To our dental colleagues: It has been a privilege to be trusted by you. Please keep us on track by expecting the highest standards of professionalism.

Please email your comments to cameron@drmashouf.com

