

**春**季的和暖天氣到臨，意味著賽季亦即將結束。當你回顧今個賽季表現，你會發覺當中經歷了不少高潮及低潮。你的訓練時間是否太少或已經過量，又或欠缺均衡？是否不太清楚你的身體在進行規律化訓練及比賽時的需要？

跑步運動導致腦內啡endorphin(腦分泌的具有鎮痛作用的氨基酸)分泌激增，令你在跑步後感覺舒暢愉快，這個現象普遍稱為“運動員的高潮”。運動新手最經常犯的錯誤，便是過份熱忱，在短時間內訓練過度，過份專注於單一目標，便很容易上了腦內啡癮。這個情況很容易導致脛節骨刺、膝蓋骨及股骨綜合症、髂胫束摩擦症狀，及足底筋膜炎等操勞過度的創傷。

但是，“運動員的高潮”並不一定會出現，當你在訓練或參加比賽時遇到挫折，你便可能會反問自己為甚麼？這有可能是

為鋅、葉酸、維他命B6、維他命B12及維他命C，均可從均衡的飲食中攝取。

肝、腎、心臟、蛋白、豆科植物、可、蔗糖、貝類水產及荷蘭芹等食物均含有豐富的鐵質；此外，肉類(肌肉)、魚、家禽、果仁、綠色蔬菜及全麥麵包也含有鐵質，肉類中的鐵質較蔬菜所含的鐵質較容易被人體吸收，有素食習慣的運動員應多加留意飲食，以確定能吸收所需的鐵質。

參加長途耐力賽的運動員，患上貧血症的風險較一般運動員為高，長途賽事中重複的踏步動作會破壞紅血球，及/或因訓練刺激血漿容積增加，此現象亦稱作「行軍血紅素尿」，因病症最初於行軍中的步兵身上發現。血漿內過多的血紅蛋白會經腎臟過濾排出以保持均衡，故尿液會呈較深顏色，但這情況亦有可能是由其他原因，如脫水等導致。

化系統的角色，有助擴張連接著肌肉的血管。在交感神經運作的情況下，自主神經系統會控制血壓及心跳，根據運動的需要而作出相應調節以達至均衡。消化食物或前往浴室淋浴會刺激迷走神經(副交感神經的重要部分)，導致血壓及心跳突然下降，運動員因而感到非常不適。

如運動員參加的耐力賽較馬拉松賽事還要長的話，那便必需訓練其消化系統在比賽進行時，如何依賴一個非正常運作的胃部(因比賽時血液供應不足所致)吸收養份，這是一門非常專業的學問，而其效果亦因運動員體質各異而有所不同。

比賽當日除了某些短暫的問題，整個身體也會受到不同程度的輕微創傷，長遠而言會令身體更易受傷。調查結果顯示運動員在參加馬拉松賽事之後，免疫系統功能減弱，且情況會持續數周之久。不少運動

# 運動員之低潮——當

## “Runner's Low – when the “Running

因為你的訓練計劃並不是針對單一比賽、在短時間內訓練過度、更沒有以達至一定水平為目標而適當調理身體，包括食物營養、水份補充及休息等各方面。

上述情況最有可能導致貧血症問題。

### 運動貧血症(Sports Anaemia)

不論是增加訓練的劇烈度或頻密度，均會引致短暫的疲勞，若養份得到均衡補充，以及夜間有充足睡眠，運動員便可以在24小時之內從短暫疲勞中恢復過來。而慢性疲勞則會導致睡眠質量下降、食慾不振、面色蒼白以及情緒不穩定等情況，影響訓練及比賽時之表現；感染疾病的次數增加，以及染病後需較長時間才能康復，均意味著你有可能已受到運動貧血症的影響。

貧血症患者通常會出現血紅蛋白或紅血球數量不足的情況，醫生會檢查眼膜有否過份蒼白、指甲是否變得脆弱，以及進行血液檢驗來作為診斷的依據。血紅蛋白檢驗能揭示血液的帶氧能力，但要得悉身體的鐵質狀況，便要進行血清鐵蛋白檢驗。

血紅蛋白(一般以縮寫Hb代替)將氧氣由肺部輸送到包括肌肉及細胞等身體其他部份，到達後釋出運載著的氧氣，並以分泌水份作為調節。沒有血紅蛋白即沒有氧氣，運動員也沒有運動的能力，故運動員需要增加其紅血球的數量。最主要製造紅血球的養份

### 精疲力竭(Exhaustion)

由貧血症引致的疲勞出現於10%的男性運動員及40%的女性運動員身上，劇烈的訓練及比賽會出現非尋常及較嚴重的情況，導致精疲力竭及頭昏眼花、痙攣、系統肌肉虛弱或噁心。在某些極端例子中，運動員更進入了昏迷狀況，箇中原因可歸咎於肌肉過度操勞，超越了可承受之極限。

長時間進行劇烈的耐力比賽，有可能導致糖原的過度虛耗，有時候還會出現因運動導致的血糖過低現象。排汗過多會使身體的水份及電解質過度流失，體內細胞因而得不到足夠的氧氣及養份。如情況進一步惡化，會因血溶積減少而導致休克。除排汗過多外，水份流失與體溫上升有著顯著的關係，情況嚴重者會出現中暑徵狀。上述徵狀確實難以識別，有時候不同徵狀更會同時出現。為了避免上述徵狀出現，運動員必需在長時間運動時，經常補充足夠水份、電解質及葡萄糖。

### 賽後不適(Post-event sickness)

完成耐力賽事後最初的興奮心情(euphoria)，會因進食或前往浴室淋浴而瞬即變成難受的頭昏眼花及噁心。在比賽進行期間，包括心跳等身體維持生命的功能會受自主神經系統(autonomic nervous system)控制，血管的壓縮阻塞物會擔當消

員在參加劇烈賽事後，均忽略了均衡飲食及正常生活習慣的重要性，致令身體感染疾病的機會大增。

針對耐力賽的訓練計劃不僅是對體能的挑戰，運動員需要學習了解身體對訓練、養份及休息的反應，並清楚身體如何運作，從而正確地照顧身體的需要，令比賽的表現更加理想。

**T**he racing season is drawing to a close when the warm spring weather arrives. When you look back and review your performances of the racing season, there will be highs and lows. Did you train too little or too hard, or was the balance wrong? Or was it a case of not understanding how your body would respond to the demands of disciplined training and competition?

Running results in a rush of endorphins that make us feel good after a run, and is commonly recognised as “the runner's high”. A common mistake with newcomers to the sport is an over-enthusiasm of doing too much too soon, of being too focused on a single goal, and in short becoming an “endorphin junkie”. Such behaviour commonly leads to a host of over-use injuries including

shin splints, patellofemoral pain syndrome, iliotibial band friction syndrome and plantar fasciitis.

However a "runner's high" is not guaranteed, and after a few disappointing runs, whether in training or in competition, you may be asking yourself why? The chances are that your training is not event specific; you've done too much too soon, you've not learnt how to listen to your body to ensure that it is properly fed, watered and rested to achieve your performance objectives.

One of the leading problems associated with the above is anaemia.

### Sports Anaemia

Any increase in training intensity and frequency will naturally result in short-term fatigue. Short-term fatigue can usually be

achieved by the intake of a balanced diet.

Good sources of iron are liver, kidney, heart, egg yolk, legumes, cocoa, cane molasses, shellfish and parsley. Moderate sources include muscle meats, fish, poultry, nuts, green vegetables and wholemeal bread. The iron in vegetables is less bio-available than iron in meats, so athletes relying on a vegetarian diet need to pay particular attention to their dietary requirements.

Endurance athletes are even more at risk from anaemia than other athletes

due to the destruction of red blood cells by the repetitive foot strikes of long distance running, and/or an increase in plasma volume because of training stimulation. This condition is known as "march haemoglobinuria", as it was first diagnosed in foot soldiers engaged on long marches. A tell tale sign is dark coloured urine arising from the excess free plasma haemoglobin that is filtered out by the kidneys to restore equilibrium. However, dark urine can also have other simple causes such as dehydration.

next page >>

# 跑步高潮 "High" doesn't happen

文: Elton Ng / 運動物理治療師  
by: Elton Ng - Sports physiotherapist

corrected in less than 24 hours with balanced nutrition and a good night's sleep. Chronic fatigue often results in poor sleep, diminished appetite, paleness and mood changes. An associated decline in your training and race performances - perhaps an increase in the incidence and duration of infection may indicate that you are suffering from sports anaemia.

Anaemia is most often manifested by a deficiency in the quantity of haemoglobin, or red blood cells. A doctor will usually check the membranes of the eye for excessive paleness and the fingernails for signs of brittleness, as well as undertaking blood tests. While an haemoglobin test will reveal the oxygen-carrying power of blood, it will not reveal the body's true iron status; this is done with a serum ferritin test.

Haemoglobin (frequently abbreviated as Hb) carries oxygen from the lungs to the rest of the body, including muscles and cells where it releases the oxygen load. It also regulates the excretion of water. No haemoglobin, no oxygen, no athlete. Athletes therefore need to maximize their red cell count. The principal nutrients involved in making red blood cells are zinc, folic acid, vitamin B6, vitamin B12 and vitamin C, and can be



### Exhaustion

The weariness associated with anaemia typically occurs in 10 percent of male athletes and as many as forty percent of female athletes. A less common and more serious condition results in exhaustion and dizziness, muscle cramp, systemic muscle weakness, or nausea after strenuous training or intense racing. In extreme cases runners have been known to fall into a coma. The simple reason is that the muscles have exercised to their limit during exercise.

Prolonged high intensity endurance events can lead to the exhaustion of glycogen levels and sometimes give rise to exercise-induced hypoglycemia. Excessive sweating leads to excessive loss of body fluid and electrolyte, which in turn leads to insufficient supply of oxygen or nutrients to the body cells. If the situation further deteriorates, it may cause hypovolaemic shock. In addition to severe sweating, the loss of body fluid is closely associated with an increase in body temperature and more seriously, heat stroke. It is not easy to distinguish between these symptoms, and sometimes

they can occur at the same time. In order to prevent experiencing these symptoms, it is therefore vital to replenish yourself with enough fluid, electrolytes and glucose at regular intervals during prolonged exercise.

### Post-event symptoms

The initial feeling of euphoria that comes with completing an endurance event can rapidly be transformed into dizziness and nausea with the intake of food and/or a trip to the bathroom. During the run the body's vital functions are controlled by the autonomic nervous system (ANS) that controls vital functions such as heart rate, constriction of blood vessels serving the digestive system in favour of dilating blood vessels that serve the muscles. In this sympathetic manner the ANS controls blood pressure and heart rate to maintain equilibrium in response to exercise demand. Digestion or a trip to the bathroom can stimulate the vagus nerve, a key component of the parasympathetic nervous system, and result in a sudden drop in blood pressure and heart rate. The experience is far from pleasant.



「貧血症影響10%男性運動員……40%女性運動員」  
 "Anaemia affects 10% of male athletes...  
 40% of female athletes"



For endurance events longer than a marathon, it will be necessary to train the digestive system to take on nutrients into a 'non-functioning' stomach (due to insufficient blood supply during a race), while also performing. This is a specialist topic and also varies considerably from one individual to another.

In addition to short-term problems experienced on the day of competition, the whole body suffers from a certain degree of micro-injury, which causes a more long-term vulnerability. Research shows that our immune system capability will be impaired for several weeks after completing a marathon. Many athletes tend to neglect a proper diet and the appropriate lifestyle after completing such an exhausting event, which will further increase the chances of becoming sick.

Training for an endurance race is more than just a physical challenge. You will need to learn how your body responds to training, nutrition and to rest. You need to understand how your body works and treat it sympathetically to ensure happy landings.