SLEEPING – AN EFFICIENT WAY OF PERFORMANCE SPORTSMEN RECOVERING

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Key words: Slow sleep, rapid sleep, active sleep, passive sleep, normal sleep, paradoxical sleep, sleeping shortage, sleep inducing.
Summary: Sleeping is a brain activity state characterized by temporary interruption of conscient touch with the exterior and interior, being a reverse state.

The passing to sleep state and the other way around is made easily, in a few seconds, and wakeful state coincides with night-day cycle, that's why it is also called circadian.

During sportsmen spontaneous restoration, profound and resting sleep, which has an important role in the intellectual and physical abilities, will lead to the development of psycho-motile performances during trainings and competitions.

Introduction:

Sleeping is a periodic, reversible, physiological state, characterized by consciousness abolishment, demeanor inactivity (somatic – motile), lessening of the metabolism and reactivity. It is certain that sleeping steps in while the individual passes through the physic and psychic recovery, phenomenon.

Unfortunately, a good sleep doesn't always to be looked upon as a main rule for performance sportsmen, the cause of sleeping problems being most of the times multiple.

First of all, the rhythm of life and the training schedule aren't factors that ease an early bedtime and the time for sleeping is a really short one. The result of this is a "cut short" sleep; meanwhile researching showing that sportsman need of sleep is an outstanding one, comparing it to the rest of the population. This "alterated", "cut short" sleep is later put on to the decrease of the cognitive, physic and psycho-motile abilities. There is a risk of concentration difficulties, attention upholding, memorizing etc. The absence or shortening of sleep-time also takes actions on their state of mind (nervousness, aggressivity, phobia, physic exhaustion, etc.) affecting it.

During spontaneous recovering, profound sleeping has an important role on the intellectual and physic capacities all this due to inhibition provoked by the irradiative protection on the cortex that is

induced by the nervous cells regeneration. The role of the adults grown hormone is already known in the increase and regeneration of cells , as well as the fact that its secretion is produced during sleep , any sleeping leading do the decrease of this hormone in the blood and the diminish its recovery . Experiments made on sportsmen that where deprived of sleep demonstrated that pilled up fatigue has transformed itself into an imperative need of sleep together with loss of tonus and muscle strength and also great difficulties of focusing.

Neuro - physiologically sleep is described as either a slow stage or paradoxical one.

Material-method:

The most important sleep is the night sleep, day sleeping being less relaxing because of the fact that the paradoxical sleep periods are diminished (during the regular night sleep every 90 min the slow sleeping is interpolated with paradoxical sleep periods) and implicitly the making up of the neuron phases, restoration that is achieved through paradoxical night sleep.

Slow sleeping has restoring, resting and tonifying role; it plays an important part in the development and renewing of the tissues role in the protein synthesis. The paradoxical sleep has an essential role in the metabolic ionic and protein restoration of the neurons, as well as the short term and the long term memory stabilization.

In contrast with the wakefulness state characterized by psychic activism and clearness and identifiable as consciousness, sleep made may be defined as reverse state of the body, associated with the decrease till the level of disappearance of superior adapted reactions, of connections and sensory, motile reactions with and against the environment (it is the state that makes the human being, completely helpless). Sleeping fulfills two major roles in human's life: a biological are consisting in a body resting assurance an a psychological one, materialized in the decrease of the interest for the exterior world. The fact that sleep has such major roles in human being existence is demonstrated by the "sleeping depriving" periods which due to their over-challenging actions, exhausts the functional body stocks. In the same time they are associated with changes of the psycho-demeanor, picture of the human being interfering with confusion, irritation and bewilderment. During sleep time, as a rule, vegetative (respiration, circulation, digestion) and metabolic functions diminish is produced. The frequency of respiratory movements, ventilator and cardiac flow, as well as the arterial tension values has a significant

decrease. Urinary apparatus function lessens, muscle tonus is reduced and the activity of the locomotive apparatus is ceased.

It is of utmost importance the passing from a state of mind to another one, from the wakeful state to that of falling asleep or napping or the other way around. This phenomenon takes place really easy, in a few seconds time. The rhythm sleep awakening coincides with the day-night cycle, that's why it is also called circadian rhythm.

Results

The comparative analysis of the two states the sleeping one and the wakeful one shows that they are in opposition. This way during the wakeful state the electric activity of the cortex recorded with the help of electroencephalography (E.E.G.) shows frequent rhythms and low amplitude, which is desynchronized, the exception being the case of the profound sleep when the rhythms are relatively the same.

The periods of drowsiness and sleep are really long at human beings during the sensorial depriving states. Sleeping set up, as a result of suppressing outcome or sensorial information decrease, explain the passive "sleeping". Besides these, there is also an "active sleeping", produced by the spreading in the cortex of an active, inhibiting process that is distributed closer and closer.

The term of "active sleep" has a double meaning it marks the opposition against "passive sleep" owed, to the tonus fall down as a result of the specific adherent lack and it suggests the fact that sleeping can be included intentionally in experimental conditions or during daily life. The producing of active sleep may be obtained by sensorial receiver stimulation this way, many specialists emitting a series of physiological theories concerning the producing and explaining of the active sleep. More that, the wide spreads sleeping "chemical theories" show that, the responsibility of sleep coming out, is taken by a series of chemical elements and the dynamic of these substances, that are placed inside the cerebrospinal fluid, produce the "appetite" for sleep. Modern research shows that none of these explanations is truly satisfactory. Together with the purely physiological and biochemical mechanism there must be taken in account the psychic mechanisms as well (especially the justifiable ones), that are able to create inhibition or nervous structures deactivation, this way maintaining either the wakeful state or the sleeping one.

A scientific sleeping theory must explain several aspects: the stepping in the sleep device (asleep), the getting out of the sleep device (the awake), the maintaining of sleep mechanism, and the contrivance of perverting sleep. The neuron-mediators that control neuron-physiological

alternative between sleep and wakeful state, seem to be serotonin – in the case of napping and falling asleep, and, noradrenalin dopamine – when talking about awakening

Sleeping or falling asleep isn't achieved unexpectedly but seldom, in the case of children or adults that came after a really important physical effort. As a rule, it is preceded by several reactions (yawn decrease of muscle tonus, pulse interval, lessening of blood pressure, increase of termination temperature).

Definitive wakeful state is perfectly similar to the state of falling asleep but in the opposite direction. It is achieved in a progressive manner, but the signs that accompany it are opposed to those concerning sleeping (pulse increase and breathing).

Maintenance of sleep is owed to the getting out of function of the ascendant activating system, to the inhibition spreading out, into a big nervous quantity and coming into effect of some chemical inhibitory mediators.

Sleep encumber takes place on the account of the intervening of some unexpected factors (noise, verbal interdiction, etc.) and direct or indirect stimulus of the activating system.

Research showed that there are five stages of sleep:

- phase A – is characterized through the decline of the somnolent state, by transition from a relaxed vigilant state to a drowsy one;
- phase B – is described by the napping state;
- phase C – the medium sound sleep state;
- phase D and E – deep sleep state.

These five sleep stages don't become visible in any sleeping type but the slow one. It has been demonstrated that besides slow sleep, which represents approximately 60-70 % of the ensemble sleep conduct, there is also a rapid sleeping state marked by specific behavior appearances. Quick sleep, which recurs at regular intervals during slow sleep, describes approximately 18-22% of the total sleep length, comes into sight at 90 to 120 minutes and it occurs for about 5-10 minutes.

Author's opinion concerning the nature, structure and the mechanisms of these two types of sleep are divided among them, but yet they agree on the fact that rapid sleep is the expression of the psychic, delirious (raving) activities as well as the fact that the two types of sleep have contradictory effects:

- show sleep fulfills especially a repairing, resting, restoring, fortifying part of the organism and partially for the brain;

- rapid sleep owns effects directed on the brain renewal, contributing to the long term memory.

Discussions

Psychic reactivity of the human being sustains during sleep some changes. This way, the sensorial threshold are modified (being increased), the time of reactions grows up while falling asleep, conditioned reactions evolve, some of them being possible to have fulfillment during sleep although after awakening the individual being unable to remember anything.

In some cases of sportsmen sleep shortage, there must be taken into account a training schedule, the contents and the steadiness of timetables (a carbohydrate diet makes possible sleep occurrence).

Sleep disorder may also be caused by an inadequate hygienic life and the desinchronization of the biologic rhythm. This desynchronism that produces the sleep shortage is created mostly by competition stress associated with time difference.

Due to the fact that sleep disorder (insomnia), or sleep shortage discharges negative effects on sportsmen body and behavior, a present time problem is represented by the sleep inference that may be accomplished through three methods that favor and maintain sleep: the inducing of sleep on a medicinal way, by hypnotic suggestion (sleeping trance) and by electric means (electro sleep)

Before any therapeutic actions or any specific treatment, it is important to make sure that the need of restoration is not linked to sleep disorder or biological rhythm.

The systematic control over sportsmen hygienic life, especially concerning sleep, deserves to be amplified in the future. This may be the meaning of initialization of a preventing campaigned, coordinated by specialists that can make sportsmen be acquaintance with themselves better, that could make them think and better understand the disfunctionalities that occur during lack or shortage of sleep and, meanwhile, the need of adopting a healthy lifestyle, all these being a contribution addressed to the increasing of effort capability and, implicitly, of the individual performance.

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Titlu: Somnul, mijloc eficient de refacere la sportivii de performanţă
Cuvinte cheie: Somn lent, somn rapid, somn activ, somn pasiv, somn normal, somn paradoxal, „deprivarea de somn”, inducerea somnului.
Rezumat: Somnul este o stare de activitate cerebrală, caracterizată prin întreruperea temporară a contactului conştient cu interiorul şi cu exteriorul, având caracter reversibil.

Trecerea de la veghe la somn şi invers are loc cu uşurinţă, în câteva secunde, iar ritmul somn-veghe coincide cu ciclul noapte-zi, de aceea se mai numeşte ritm circadian.

În cadrul refacerii spontane la sportivi, somnul profund, odihnitor cu rol deosebit asupra capacităţii fizice şi intelectuale, va conduce la creşterea performanţelor psiho-motrice în antrenamente şi concursuri.

Titre: Le sommeil, milieu efficient des redressement des sportifs de performance
Mots-clés: Sommeil lente, sommeil rapide, sommeil actif, sommeil passif, sommeil normal, sommeilparadoxal, “deprivée de sommeil”, l'introduction de sommeil
Résumé: Le sommeil est un état d'activite cérébrale, caractérisé par l'interuption temporelle du contact couxient avec l'interieur et avec l'exterieur, ayant un caractère reversible.

Le passage de la veille au sommeil et inverse a lieu facilement, en quelques secondes, et le rythme sommeil-veille coincide avec le cycle nuit-journée aussi nomme-t-on rythme cyrcadien.

Au cadre de la redressement spontaine au sportifs, le sommeil profond, reposant avec un rôle particulier sur la capacite physique et intelectuelle, va conduire a la croissance des performances psycho-motriques dans les entrainements et les coucours.