

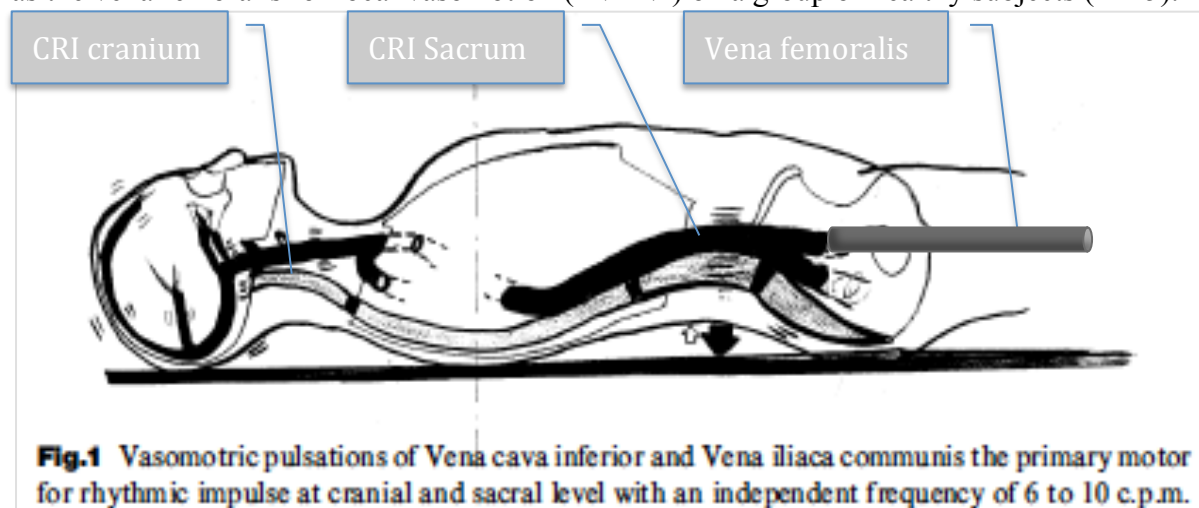
# A new hypothesis for the explanation of the origin of the cranial rhythmic impulse (CRI) is based on the principle of venomotricity

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**BACKGROUND:** A new hypothesis for the explanation of the origin of the cranial rhythmic impulse (CRI) is based on the principle of venomotricity [1, 2]. Research on this physiological phenomenon was carried out on bats more than 100 years ago and showed an automatic rhythm of approximately 10 cycles per min (cpm).

**METHODS:** To discover whether a brief physical peak effort has an influence on the CRI. We will assume that there is, in the case of maximal exertion, a brief shift of the CO<sub>2</sub>/O<sub>2</sub> volume ratio (RER), which serves as a measure for the energy consumption within the blood vessels. In analogy with this physiological phenomenon we would expect a decrease of the CRI. Three examiners (twice) palpated the cranium and the sacrum for the CRI as well as the vena femoralis for local vasomotion (LVMvf) on a group of healthy subjects (n=15).



**RESULTS:** Together with the values of lactic acid concentration, these data were used as explanatory variables and compared to the outcome variables, i.e. the CRI of the cranium (CRI cranium), the CRI of the sacrum (CRI sacrum), cardiac pulse (CAP) and local vasomotion of the vena femoralis (LVMvf). The experiment demonstrated that 20 min post-test, a maximal exertion test yields a significant decrease of the 3 measured rhythms with an average reduction of  $\geq 30\%$ . As the 3 rhythms, CRI cranium, CRI sacrum and LVMvf, which were measured simultaneously, correspond both before and after the exertion test, and since all 3 rhythms decreased markedly following exertion, it is possible to hypothesize that venous vasomotricity is probably one of the forces behind CRI (Fig. 1).

**CONCLUSIONS:** It is proposed that the intrinsic movement of a cranial bones, fascia, organs, may be caused by local venomotion pulsation, the reflection of which we may palpate at the surface. Venous vasomotricity is to be found throughout the body, including the head whereof indirect venomotion is probably the prime motor of the “cranio-sacral motion”.

## REFERENCES

- [1] Farasyn A. Hypothèse sur la cause du mouvement crânien, dit de “troisième orde”. Fascia, Revue de Médecine Ostéopathique, Tijdschrift van Osteopathische Geneeskunde 5:8-13, 1986
- [2] Farasyn A. New hypothesis for the origin of cranosacral motion. Bulletin Soc Osteop 16:9-20, 1988
- [3] Farasyn A. Nieuwe hypothese betreffende de oorsprong van het zgn. ‘Cranio Sacral Motion’-fenomeen. Nederlands Tijdschrift voor Manuele Therapie 8:47-50, 1989
- [4] Farasyn A. New hypothesis for the origin of cranio-sacral motion. Journal of Bodywork and Movement Therapies 3(1) 229-37, 1999
- [5] Farasyn A, Vanderschueren F. The decrease of the cranial rhythmic impulse during maximal physical exertion: an argument for the hypothesis of venomotion? Journal of Bodywork & Movement therapies 1;56-69, 2001