



# In Search of Optimal Poise

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Classical guitar



*“Relaxation does not involve muscle relaxation, but a dynamic tone of the antagonistic muscles that maintain the member in a position of inertia. We thus speak of an active rather than a passive relaxation. The balance of forces produces a feeling of muscle relaxation”*

Philippe Chamagne, Clinique du musicien, Paris



In the pedagogical tradition of the classical guitar the best position for holding the instrument has been debated throughout centuries. Nevertheless, there exists very little data or valid studies that deal rationally with the relation between optimal ergonomic practice, muscular tension and control of the produced sound.

An earlier pilot study (*"Study on the impact of muscular tension on sound control and timbre on the classical guitar, Munk Larsen, 2015*) indicates that performing with a high level of muscular tone in the chest and upper shoulders/neck leads to a decrease in tonal control - and to a timbre characterized by an increase in disturbing, distorting overtones.

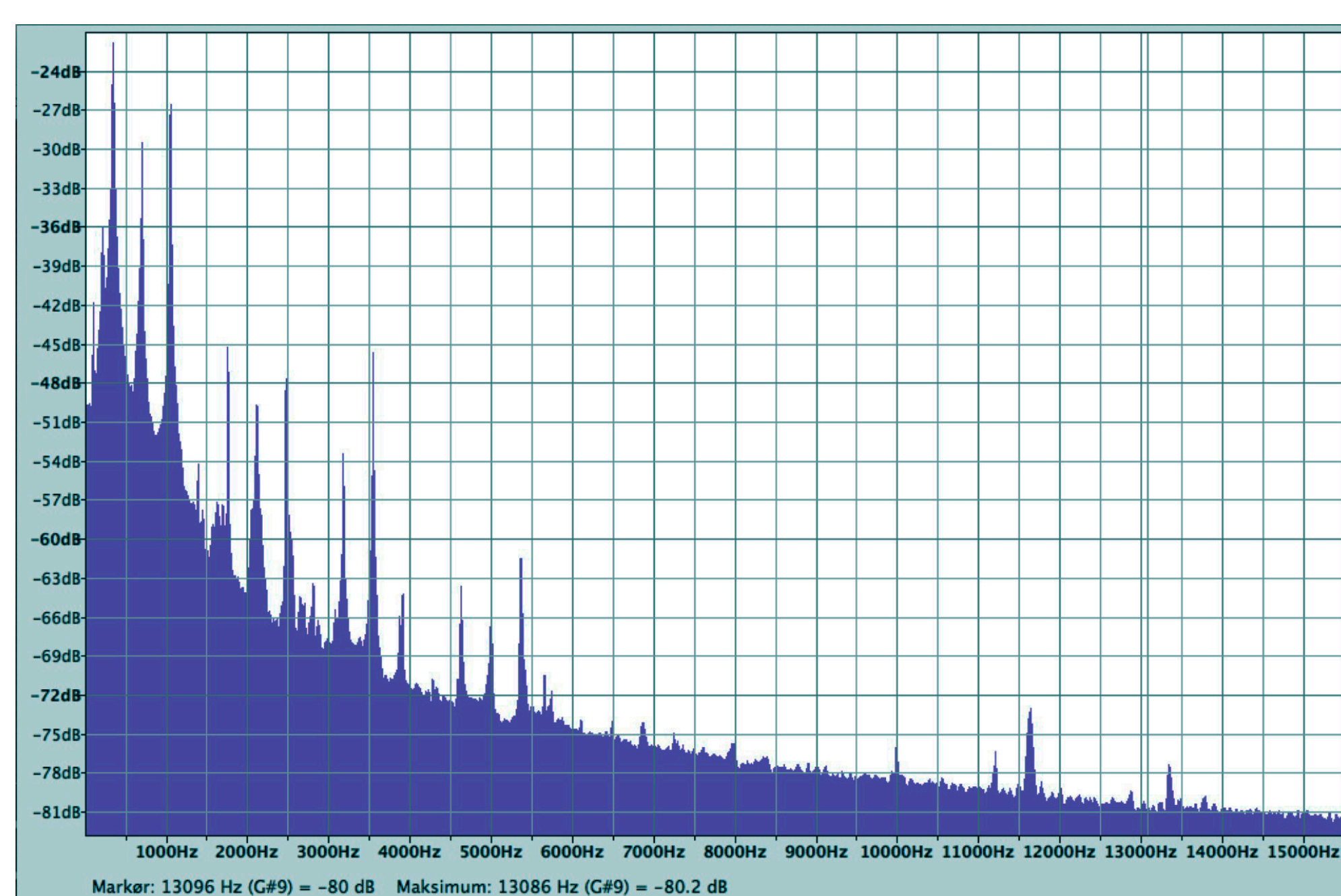


Illustration 1.a: A single note G4 (392 Hz) played with highly activated chest, forearm and neck muscles. Frequencies that blur or distort the fundamental note are very evident. The extremes close to 11640 Hz, 13350, Hz and 10000 Hz, represent approx. a f#, a g#, and a d#, respectively.

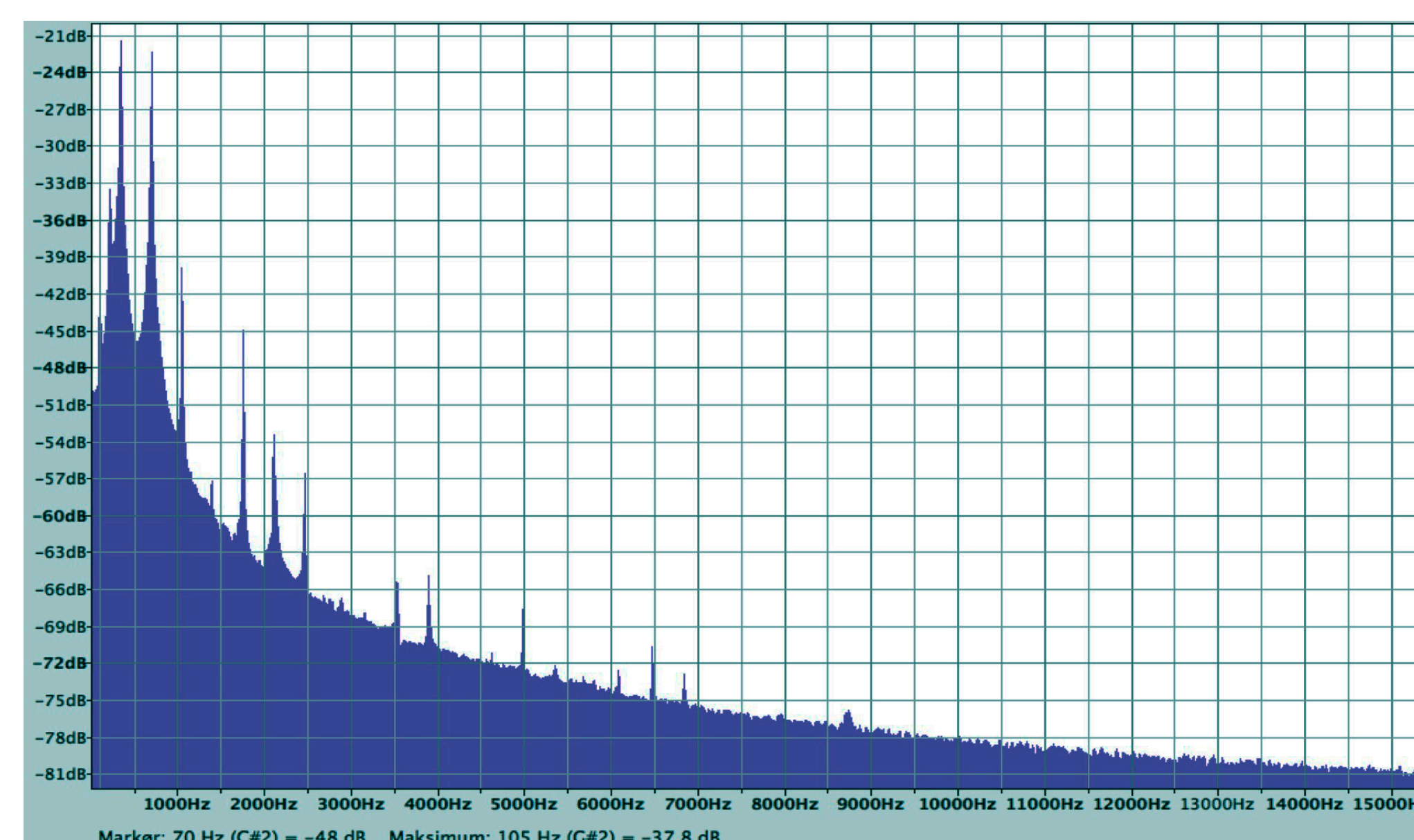


Illustration 1.b. The same single note, G4, played in the routinely practiced position with the attempt to have a balanced tone of key muscles. Here we observe a pattern, with gradually descending peaks on the frequencies of the harmonic series of the G.

The current study, *In search of optimal poise*, examines whether the use of exercises that aim to strengthen the guitarist's anatomical awareness and the rational use of muscular activation have beneficial effects on the player's sound production. Participants are monitored for both short-term and long-term effects. Results are examined through spectral analyses as well as by questionnaires.

The study is based on the assumption that a *balanced muscular tone* is vital for increased instrumental control. In many cases a more noticeable activation of muscles like *latissimus dorsi*, and the *rhomboids* in the upper back, may be desired to obtain both better support of the scapula, as well as stability and freedom in the movements of the arms. It is believed that this could help to decrease the muscular tension around the neck and chest and lead to an improved instrumental control, both in terms of rhythmic precision and sound control. Results will be presented July 2016.

Exercises, based on instructions from a. o. Marc Papillon, *Clinique du Musicien, Paris*, aims to establish a posture with the following characteristics:

1. Position: The player should be aware of the alignment in the vertical and horizontal axes. It is especially important to center the head in the axes due to its weight of around 8% of the body weight.
2. Any torsion should be avoided
3. The body weight should be evenly distributed on the two seat-bones.
4. The pelvis should remain mobile and move slightly during performance.
5. The shoulder blades should be aligned
6. Exercises for the hands are mainly carried out with arms partly in supination, the back of the hand raised in slight extension and wrists approximately 15% in ulnar deviation.