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Abstract

## A pocket computer programme for the indication for operation of pectus excavatum

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Patients with pectus excavatum or funnel chest can be operated on either by osteo-chondroplastic surgery or by a less invasive cosmetic correction, in which the cavity is filled subcutaneously with an elastomer [1]. Bühlmann [2,3] developed an algorithm which allows the physician to decide whether an operation is indicated and, if so, which kind of surgical intervention is best suited. The algorithm is based on cardiopulmonary parameters obtained by exercise testing in an upright and a supine position.

We have developed a computer programme written in BASIC, which runs on the HP 71 B from Hewlett Packard, based on the above-mentioned algorithm. From the input data (age, height, sex) it calculates the optimal workloads and durations for exercise testing. After the input of the pulse rates at the different workloads, the programme calculates if a decrease in cardiopulmonary capacity has occurred and gives an interpretation of whether an operation is necessary

and, if so, the kind of surgery indicated. If a decision cannot be made from the data obtained, further investigative studies are suggested by the computer. On request, a printout with the diagnosis and an explanation 'why' the specific decision was made, is given.

The programme was tested for accuracy on the basis of 8 cases. In each case the computer diagnosis was in accordance with the diagnosis made by the physician who examined the patient.

### References

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