

# Ergonomic Waist Therapy Design for Low Back Pain Suffers Using Nigel Cross's Method

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## Abstract

Low back pain is a condition of pain in the lumbar spine due to injury or strained muscles. Through previous assessments of complaints obtained from patients at the physiotherapy clinic. Complaints appeared in the form of pain when using a back therapy device. These complaints are the background for making design and feature improvements to reduce pain during therapy. The aim of this research is to find alternative designs for back therapy devices for low back pain sufferers. Product design according to Nigel Cross is divided into seven steps, namely clarifying objectives, determining functions, compiling needs, determining characteristics, generating alternatives, evaluating alternatives, and detailing improvements, and using anthropometry to determine the dimensions of body parts needed for product design. The Nigel Cross method applied to Heated Back Therapy Device products produces black and white product color design specifications, product weight 1 kg, product shape is rectangular, product material is ABS plastic, product dimensions are 72.03 x 51.16 cm, product maximum load is 150 kg, the degree of curvature of the product is 3 levels, has heating feature as an additional function, heating temperature is 40°C, and heating time is 30 minutes. Ergonomic design for Heated Back Therapy Device products provides benefits to users, including improving the structure of the spine so that it is not bent and conforms to the structure it should be, overcoming low back pain in the spine, and improving blood circulation so as to produce an ergonomic product for the user.

## Keywords

Product Design, Anthropometry, Nigel Cross, Ergonomics, Physiotherapy

## Biography / Biographies

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