Integrating ergonomics into the product development process.

A cross-sectional case study was performed in a large company producing electro-mechanical products for industrial application. The purpose was to elucidate conditions and strategies for integrating ergonomics into the product development process thereby preventing ergonomic problems at the time of manufacture of new products. In reality the product development process is not a rational problem solving process and does not proceed in a sequential manner as described in engineering models. Instead it is a complex organizational process involving uncertainties, iterative elements and negotiation between key actors. Design and production engineers have a great influence on ergonomics in manufacturing departments. Ergonomics considerations are partly taken into account by production engineers but not as a part of standard operating procedures. There is a number of differences between design and production engineers regarding information sources in problem solving, communication pattern, perception of ergonomics, motivation and requests to support tools and methods. These differences and the social and organizational contexts of the development process must be taken into account when considering strategies to the integration of ergonomics.