handle decomposition

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Let M^n be a smooth, connected, closed n dimensional manifold. A *handle* is $H^n_\lambda = B^\lambda \times B^{n-\lambda}$ where B^λ is a λ-ball.

Any such manifold M is diffeomorphic to the union of finitely many such handles where each handle H^n_λ is in a one-to-one correspondence with the critical points of λ of a Morse function on M.