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**Title**

Complex regional pain syndrome treated with above knee amputation and osseointegration

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**Summary**

A 24-year-old woman with unremitting complex regional pain syndrome type I (CRPS-I) underwent a trans-femoral amputation, then reconstruction with osseointegration surgery.

**Introduction/Basis**

Severe cases of CRPS may necessitate amputation as a desperate remedy to manage the disease. However, rehabilitation with traditional socket-mounted prostheses can result in new manifestations of the syndrome. In this case report, osseointegration was used as the main rehabilitation strategy which significantly improved her clinical outcomes.

**Scientific Method**

Radiographs revealed profound osteopenia of the involved limb, and the presence of the right patella was difficult to determine due to severe osteoporosis. Radiographs and CT scans also revealed good delineation of the proximal and distal shaft of the right femur with no definite bony abnormality or irregularity other than osteopenia. Bone scans demonstrated dramatically increased uptake and tracer activity in the right patella, consistent with the prior diagnosis of CRPS-1.

**Implementation**

In December 2013, the patient received a regional epidural several days preceding the surgery. This resulted in the CRPS-1 being well demarcated, accompanied by significant erythema and hyperaemia. The patient then underwent an above knee amputation one hand's breadth proximal to the visible level of demarcation, followed by first-stage osseointegration as previously described 20, 24. Nine weeks later, the second-stage osseointegration surgery took place, which entailed the creation of a stoma and insertion of a transcutaneous adaptor for connecting an external prosthetic limb 20, 24.

## **Conclusion**

This unique case demonstrated that amputation followed by osseointegration may become an effective treatment for some CRPS patients, improving their function, mobility, and quality of life. We believe this treatment strategy holds genuine potential as a definitive option for therapy-resistant pain in dysfunctional limbs resulting from CRPS.

## **References**

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