

# Morsellised allograft bone should be washed with pulse lavage before use

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Fresh-frozen allograft bone includes components like fat and blood, which have been advised to wash out before use. But is the washing performed in theatre effective?

## *Materials and methods*

Fresh-frozen condyles of tibia and femur were morsellised and this material was washed in a steel sieve with 2 methods. The first procedure included washing with pulse lavage alone; 800 ml of saline (room temperature) was consumed for each sample. The other procedure included pulse lavage washing plus rinsing the morsellised bone under warm running tap water (55°C) for one minute. Unwashed morsellised bone served as control. The effectiveness of cleaning fat from bone was determined by measuring the residual fat content with ultrasonic hexane elution.

## *Results*

The lipid content in condyles around knee was about 50 %. Pulse lavage washing reduced 80 % of the fat of morsellised bone. Warm tap water washing improved the effect more to 90 %.

## *Conclusions*

Pulse lavage washing seems to be very effective in removing lipids from the morsellised bone. The effect can be improved by warm fluid. The lipid extraction improves allograft ingrowth and the stability of prosthesis components in bone packing. At the same time also the amount of other unnecessary remnants like blood is decreased. Viral transmission through fresh-frozen allograft bone has been reported but not if blood cells have been destroyed or extracted from the bone. Therefore, pulse lavage washing also improves viral safety in allograft surgery. It doesn't, however, erase the need of thorough donor selection and viral screening.