

## Reply to comment on Kritsaneephaiboon et al. “Minimally invasive plate osteosynthesis of distal tibial fracture using a posterolateral approach: a cadaveric study and preliminary report”

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Dear Dr. Yashwant Singh Tanwar,

Thank you very much for your interest in our article [1]. We would like to answer your questions point by point as below.

1. To reduce the risk of neurovascular injury at the small proximal incision, it is very important to dissect in the *right intermuscular plane* by sharply dissecting the flexor hallucis longus (FHL) from the posterior mid fibula subperiosteally and then dissecting the tibialis posterior (TP) from the interosseous membrane. Subsequently, these two muscles (FHL and TP) are retracted medially to use as a *cushion* to protect the posterior tibial artery (PTA) and the tibial nerve (TN). No special retractor or any instruments are required.
2. We have not mentioned the relationship between the plate and peroneal vessels in our article because the major blood supply to the foot is the PTA and the anterior tibial artery (ATA) although the peroneal artery may predominate when the ATA and the PTA are absent [2]. Furthermore, the coagulation or ligation of the peroneal artery can be done during posterolateral exposure of the ankle and distal tibia [3, 4].
3. It is very dangerous to insert the screw percutaneously when using the posterolateral approach to the tibia. In our preliminary case, we made another 3-cm skin incision, used the technique as we described above to expose the posterior aspect of the tibia and subsequently inserted the screw without opening the fracture zone. A study about the safe zone of minimally

invasive plate osteosynthesis (MIPO) using the posterolateral approach for distal tibial fractures should be done in the future.

4. It was necessary to maintain the external fixator for six weeks in our case for two reasons. The first was to stabilise the fracture during treatment of *Acinetobacter baumannii* infection. Secondly, the main disadvantage of the posterolateral approach to the ankle and distal tibia is the limited visualisation of the articular surface of the ankle and the fracture alignment [5]. To overcome this problem, fracture reduction and temporary fixation with an external fixator should be performed before definitive internal fixation. Furthermore, there was no pin tract infection before starting the operation or after removal of the external fixator.

### References

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