

Before the osteotomy is performed the nasal mucosa is mobilized from the floor and lateral walls of the nasal cavity. Additionally, the posterior aspect of the maxilla is dissected with curved elevators, and special retractors are inserted for soft-tissue protection. Afterwards, the maxillary osteotomies are performed including the lateral nasal walls. The septal base is detached from the maxilla with chisels or nasal septal osteotomies. The location of the osteotomy should allow for placing screws at a safe distance (a few millimeters) from the apices of the teeth. The osteotomy is best

performed with a reciprocating saw passing through previously designated landmarks made with a fissure burr on the piriform margins and the zygomaticoalveolar buttress to perform a precise and symmetrical osteotomy as planned (**Fig 7.3.1-1a–b**).

Additional osteotomies must be placed above the previous ones, in a parallel fashion if the maxilla needs a total shortening, or modified if anterior, posterior, or transverse corrections of the occlusal plane are going to be performed (**Figs 7.3.1-2, 7.3.1-3**). The pterygopalatine junction is now the

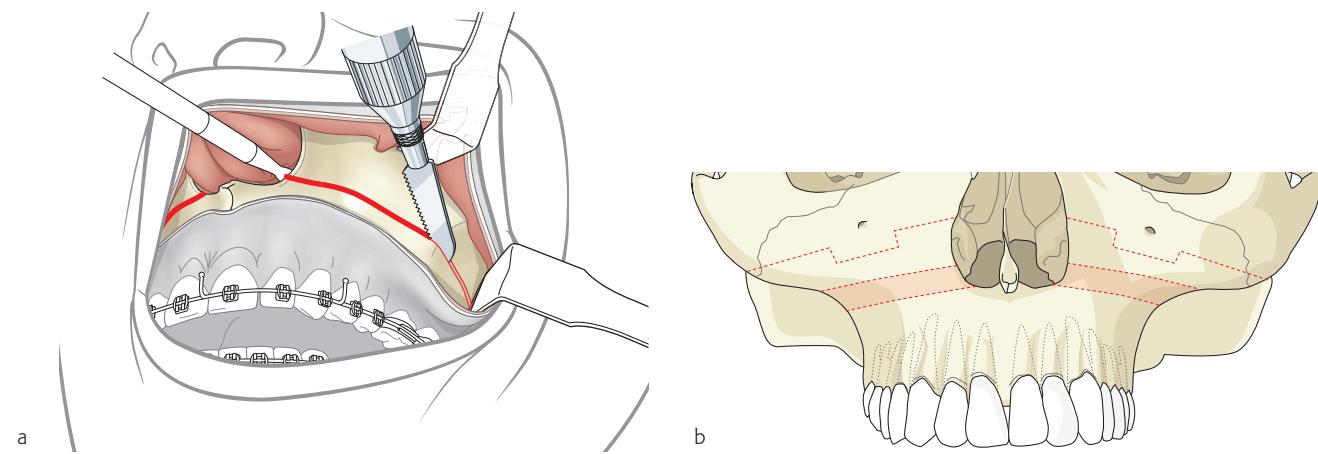


Fig 7.3.1-1a–b

- a Osteotomy with a reciprocating saw in the Le Fort I plane. The nasal mucosa is mobilized and protected with a periosteal elevator.
b Possible lower or higher osteotomy lines.

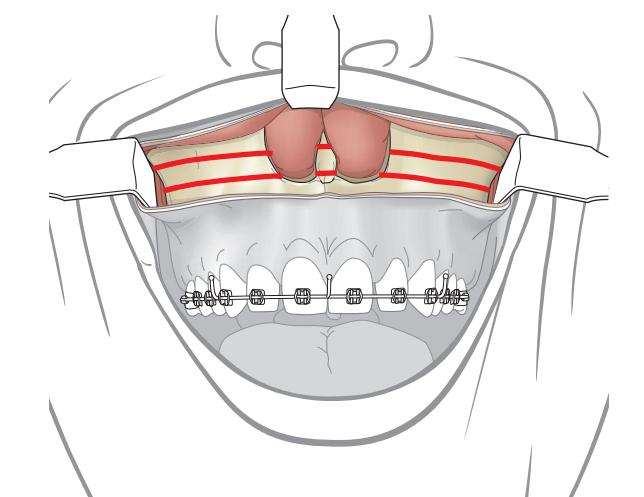


Fig 7.3.1-2 Marking of parallel osteotomy lines for a symmetrical shortening of the maxilla.

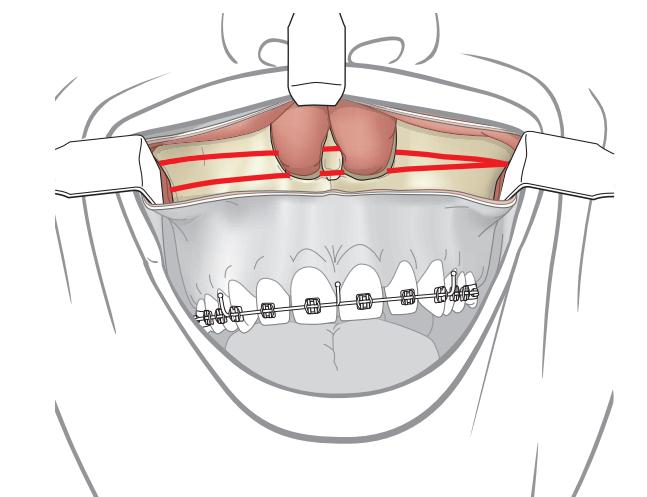


Fig 7.3.1-3 Marking of an asymmetrical Le Fort I osteotomy for a shortening in the vertical plane on the right.



remaining attachment of the maxilla and is easily sectioned with a curved osteotome introduced through the buccal incision (**Fig 7.3.1-4**). This osteotomy should be performed before mobilizing the maxilla anteriorly downward (so-called down fracture), because dividing the pterygomaxillary junction makes down fracturing easier. For maximum release, traction can be applied with a transosseous wire through the anterior nasal spine. In addition, irregular fractures in the posterior aspect of the maxilla that may extend into the posterior orbit and may be associated with the rare complication of postoperative blindness may less likely occur. After down fracturing, bleeding from the pterygoid plexus or great palatine artery can be controlled with pressure or electrocautery. No special attempt to preserve greater palatine vessels is necessary. The principal blood supply to the osteotomized fragment is through the soft tissues of the intact palate.

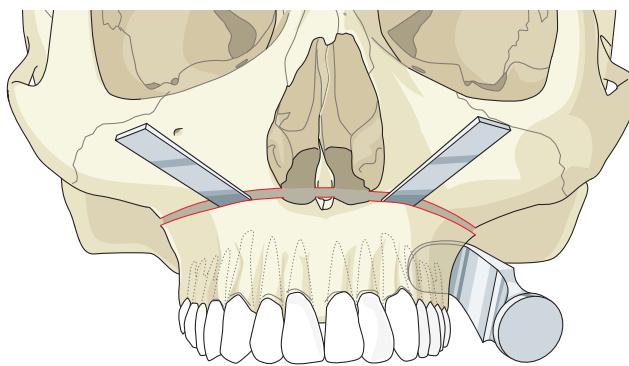


Fig 7.3.1-4 Osteotomes for the horizontal separation and curved osteotome for the separation of the pterygopalatine junction.

With the maxilla in the down-fractured position, excellent exposure is obtained, and the bony interferences to the movements of the maxilla can be eliminated with a rongeur or a high-speed burr, eg, posterior maxillary walls, nasal septum, floor, and lateral walls, until the maxilla can be completely mobilized and passively placed in the desired new position without interference (**Fig 7.3.1-5**).

Next, the splint is inserted and temporary mandibulomaxillary fixation (MMF) is performed with wires or elastics. It must be noted that after maxillary osteotomy, the mandible and the basal segment of the maxilla can be moved en bloc. Therefore, proper seating of the condyles within the glenoid fossae is checked and confirmed. They should be seated passively posteriorly and superiorly in the fossae. After moving the newly positioned maxilla upwards, the contact zone between upper and lower maxilla is checked and final interferences at the posterior medial sinus walls are removed, especially in the thick bone of the vertical process of the palatine bone and vomer. Extended superior movements may require turbinate reduction as well.

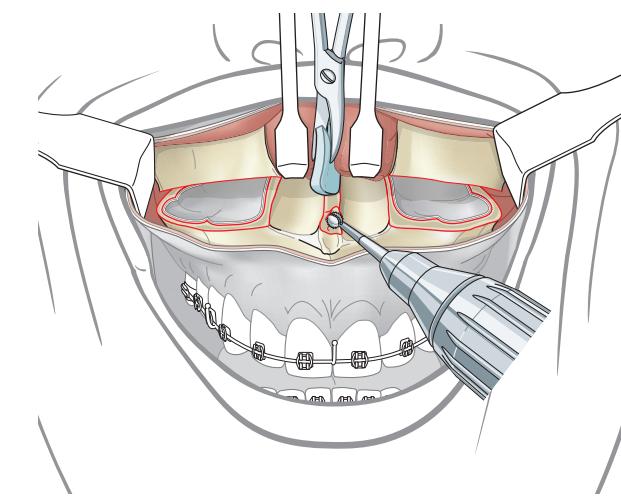


Fig 7.3.1-5 After down fracturing the nasal septum, nasal walls, and maxillary walls can be trimmed, if needed, with a high-speed burr.