Transposition of the Greater Omentum
for Reconstruction of the Chest Wall
and the Throat Area

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Summary. Good blood supply, defence against infection and easy mobilisation qualifies the greater omentum as an ideal grafting material.
Omental transposition allows the reconstruction of extensive defects of the chest wall and the throat area.
The surgical procedure is described. This operation was performed on 18 patients.

A. The Problem
Extensive soft tissue and skeletal defects in the chest wall and throat area are sometimes difficult to cover by the usual methods of plastic surgery, e.g. split skin grafts, skin transposition or pedicle flaps. Attempts to cover ischemic wound areas with split skin grafts in most cases fail. The blood supply of the skin which is to be mobilised is often disturbed by preceding operations or x-ray therapy so that skin pedicle cover cannot be applied. Reconstruction with a jump flap is time-consuming and uncertain. Wound infections, especially after excisions of x-ray ulcers or ulcerated tumors, are hard to avoid. To receive a good well vascularized base for the covering of these defects with split skin grafts, following a suggestion of Kiricuta [3, 4], we have performed omental transposition.

B. Surgical Physiology and Anatomy
The anatomical and physiological peculiarities of the greater omentum qualify it for this sort of intervention. The omentum does not arise, as often supposed, as a duplication of the serosa in consequence of the rotation of the stomach [6], but it develops together with stomach, pancreas, and spleen from the central mesenchymal mass. In the fourth embryonal week a tissue layer separates from the mesenchyme of the gastric wall, which later on splits up into spleen and omentum [5].

Under the mesothelial layer of the omentum multiple cell conglomerates (milk-spots) are located. These are rich in capillary and lympha-
tic vessels. These milk-spots produce antibodies [1, 10]. The greater omentum also has an ultrastructural appearance different from that of the mesentery and other parts of the abdominal lining. The capillaries of the milk-spots show multiple fenestrations [2]. The regular mesothelial cell layer is interrupted as well at the surface of the milk-spots [7]. This explains the rapid absorption and antigen transfer of the omentum.

The blood supply of the omentum emanates from the right and left gastroepiploic arteries, which supply 9–12 parallel epiploic rami. These vessels communicate in numerous arcades. They may be of functional