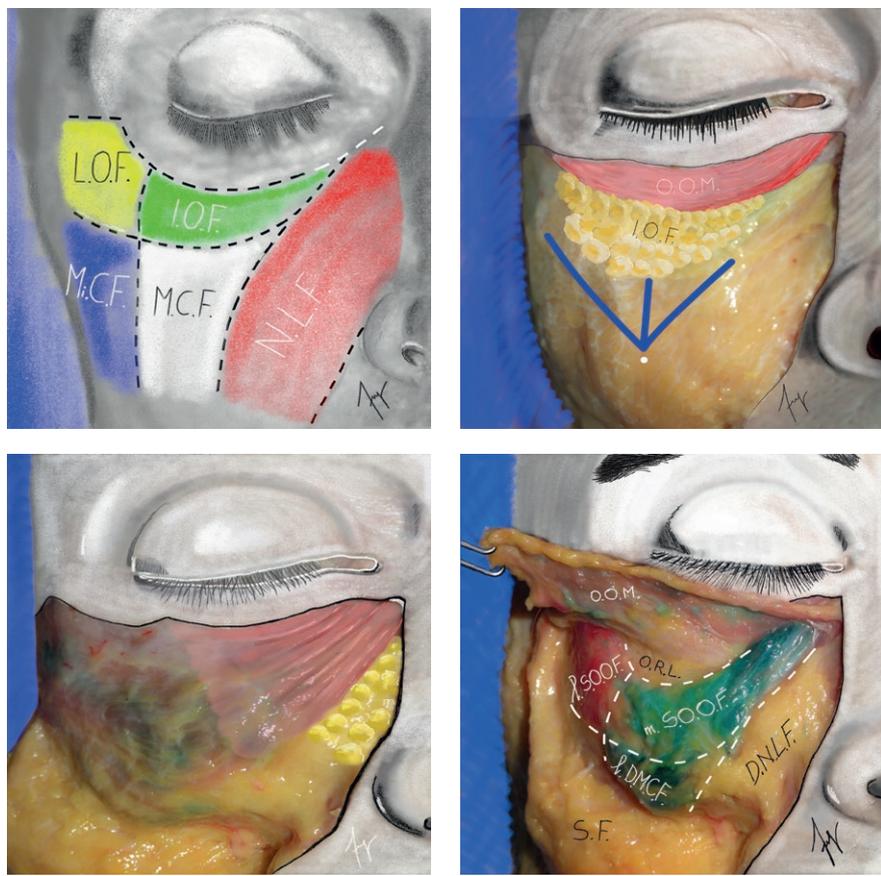


# FACIAL ANATOMY & VOLUMIZING INJECTIONS

## SUPERIOR & MIDDLE THIRD



ANATOMY in 3D

AGING & AESTHETIC ANALISYS

ADVANCED TECHNIQUES OF INJECTION

FABIO M. INGALLINA M.D.



# PREFACE

The *Facial Anatomy & Volumizing Injections* is an attempt to translate and concentrate in a book my experience of several years of conducting cadaver dissection courses and live injections workshops finalized to the teaching of the facial anatomy and filler volumizing injection techniques.

The content of this book can be summarized in a phrase: *How to inject fillers in the face according new anatomical evidences.*

The atlas format is a deliberate choice to make the book easily readable. More than 400 photos and draws will lead the reader by hand in discovering in depth the anatomy useful to inject filler and the more advanced techniques of injection.

The aim is to describe the new anatomy of fat compartments and the subjective anatomical variations directly on cadaver dissections images. The reader will understand where the cannula and the needle penetrate and slide, how to avoid the dangerous zones and improve the quality of his result knowing the topography of the fat compartments.

An important chapter is devoted to the description of the superficial cutaneous landmarks that identify the deep anatomical structures: fat compartments, septa, ligaments, arteries and veins. The reader will be able, identifying the

cutaneous landmarks, to create a road map of the upper and the middle third of the face.

Different needle or cannula techniques of injection per each region of the face are analyzed and described in depth.

This book is addressed both to experienced doctors that want deeply improve their knowledge of the anatomy and resident or beginners doctors who want to learn how to inject according new anatomical evidences. I hope it will be useful in your daily activity!!

*In this second edition, after seven years, the further experience gained in conducting more than 100 dissection courses and masterclass has been summarized.*

*New more explicative anatomy photos have been added and substituted, a new paragraph on the deep anatomy of the zygomaticus/temporal region added and some techniques that I stopped to use removed.*

*The replacement/adding of new anatomy photos has the aim to make the book even more understandable.*

Fabio M. Ingallina M.D.



## **Dr. Fabio M. Ingallina**

Plastic Reconstructive and Aesthetic Surgery – Catania - Italy

Dr. Fabio Ingallina received his Medical and Surgery degree at Catania University in 1992. In 1999 he specialised in Plastic Reconstructive & Aesthetic Surgery, still in Catania, and obtained the Microsurgery University Diploma in the Ecole de Chirurgie Université Paris Nord as well. He practiced in the St. Anne Hospital (Paris) and in Mondor Hospital (Paris), where he participated in the "face transplantation project", he also had a fellow-ship in the Universidade do Estado do Rio de Janeiro with Prof. Cardoso de Castro.

In 2002, Dr. Ingallina became the Head of the Aesthetic and Reconstructive Plastic Surgery Department of the Clinic Di Stefano Velona in Catania.

In the last nine years he participated as docent and he has directly organized several anatomy dissection courses and facial volumizing injections masterclass.

## ACKNOWLEDGEMENTS

This book is dedicated to the donors and their families that enabled the realization of this work through their noble gift.

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Where I performed all the dissections.

A special thank to my wife Sonia, my son Mario Bruno and my daughter Carla Alice who have endured my long absences while performing the dissections and writing the book.

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### Notice

This book presents current scientific information; knowledge and best practice in this field are constantly changing. It does not provide advice concerning specific diagnosis and treatment of individual cases and is not intended for use by the layperson.

Readers (Practitioners) are strongly advised to rely on their own experience and knowledge in evaluating and using any information, technique and procedure described herein.

It is the responsibility of the practitioners-readers to make diagnosis and determine the correct dosage and the best treatment for each individual patient.

The author and the publisher will not be responsible for any injury and/or damage to persons or properties related to actions taken as a result of information or opinions expressed in this book.

# CONTENTS

## PART 01 - GENERAL CONCEPTS

1. Topographical Anatomy of Fat Compartments
  - a. Anatomy of Fat Compartments: General Concepts 09
  - b. Upper Third Fat Compartments 13
  - c. Middle Third Fat Compartments 21
  - d. Facial Danger Zones: Upper and Middle Third. 33
2. Hyaluronic Acids 47
3. Patient Position and Instrumentation 48
4. Technique of Injection by Cannula: The Fanning Technique 51
5. Technique of Injection by Needle: The Bolus Technique 52
6. Technique of Injection by Needle/Cannula: Anatomical Double Plane Technique 54

## CHAPTER 02 - UPPER LID & TEMPORAL REGION

- 1) Clinical Anatomy
  - a) The Forehead, the Eyebrow and the Upper Eyelid 59
  - b) The Temporal Region 91
- 2) Technique of Injection: Forehead, Eyebrow and Upper Eyelid
  - a) General concepts 109
  - b) Technique of injection Upper Eyelid Eyebrow 110
    - i) The Deep Cannula Fanning Technique
    - ii) The Deep Needle Bolus Technique
    - iii) The Superficial Cannula Fanning Technique
  - c) Technique of injection Forehead 129
    - i) The Deep Needle/Cannula Bolus Technique
    - ii) The Superficial Cannula Fanning Technique
- 3) Technique of Injection: Temporal Region 135
  - a) The Superficial Subcutaneous Cannula Fanning Technique
  - b) The Middle Retro-Fascial Cannula Fanning Technique
  - c) The Deep Retro-Muscular Needle Bolus Technique

- 1) Clinical Anatomy
  - a) The Inferior Eyelid 155
    - i) Tear Trough 156
    - ii) Lid-Cheek Crease 171
  - b) The Cheek 185
    - i) Mediogiugal Groove, Malar and Zygomaticus regions 189
- 2) Technique of Injection: Tear Trough Deformity 232
  - a) The Deep Cannula Fanning Technique
  - b) The Deep Retro - Orbicularis Needle Bolus Technique
- 3) Technique of Injection: Lid-Cheek Crease 219
  - a) The Deep Cannula Fanning Technique
  - b) The Deep Needle Bolus Technique
- 4) Technique of Injection: Cheek Region 235
  - a) The Deep Needle Bolus Technique
  - b) The Superficial Cannula Fanning Technique
  - c) The Anatomical Double Plane Technique: Deep Bolus & Superficial Cannula
  - d) The Deep Cannula Fanning / Bolus Technique
- 5) Technique of Injection: Zygomatic Region 275
  - a) The Anatomical Double Plane Technique: Deep Bolus & Superficial Cannula



FACIAL ANATOMY & VOLUMIZING INJECTIONS  
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## SUPERFICIAL FAT COMPARTMENTS

- FRONTAL REGION
- SUPERIOR EYELID
- TEMPORAL REGION

## S.M.A.S.

- FRONTALIS MUSCLE
- ORBICULARIS OCULI MUSCLE
- SUPERFICIAL TEMPORAL FASCIA

## DEEP FAT COMPARTMENTS

- FRONTAL REGION
  - MEDIAL RETRO FRONTALIS FAT C.
  - MIDDLE RETROFRONTALIS FAT C.
  - LATERAL RETROFRONTALIS FAT C.
- SUPERIOR EYELID
  - ORBITAL R.O.O.F.
  - PALPEBRAL R.O.O.F.
- TEMPORAL REGION
  - UPPER TEMPORAL C.
  - LOWER TEMPORAL C.

## SUPERFICIAL & DEEP LIGAMENTS

- S.O.L.A.
- SUPERIOR O.R.L.
- S.T.S.
- I.T.S.

# 1. SUPERFICIAL FAT COMPARTMENTS

In the forehead and in the temporal region, the superficial fat compartments topography corresponds with the pathway of the arteries and veins. The paths and the position of the superficial branches of the axial vessels can be variable, creating small differences in the dimensions and shape of the compartments. The forehead-lid junction, that constitutes the superficial insertion of the superior orbicularis retaining ligament, defines the cutaneous boundary between the forehead and the superior eyelid.

## A. SUPERFICIAL FOREHEAD FAT COMPARTMENTS

The vessels path defines the boundaries of 3 superficial fat compartments in the inferior forehead.

Fat compartments topography useful in performing volumizing injections into the forehead:

- I. MEDIAL FRONTAL FAT COMPARTMENT
- II. MIDDLE FRONTAL FAT COMPARTMENT
- III. LATERAL FRONTAL FAT COMPARTMENT.

## B. SUPERFICIAL SUPERIOR EYELID FAT COMPARTMENT

- I. SUPRAORBITAL FAT COMPARTMENT.
- II. SUPERIOR ORBITAL FAT COMPARTMENT.

## C. SUPERFICIAL TEMPORAL FAT COMPARTMENTS

The anterior small branches of the frontal superficial temporal artery and vein define variable small superficial fat compartments in which the boundaries follow the pathways of the branches.

**IMAGE 01****Superior image:**

Expected superficial fat compartments topography analysing the wrinkles distribution. Roughly wrinkles indicate the position and the pathway of the septa, the major vessels and nerves and the compartments boundaries.

**Middle image:**

The skin has been removed and the pathway of the superficial vascular network is visible.

**Inferior image:**

The supposed fat compartments topography related with the pathway of the nerves and vessels is drawn.



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**Forehead Region:**

Medial Frontal Fat Compartment (MeFF).  
Middle Frontal Fat Compartment (MiFF).  
Lateral Frontal Fat Compartment (LFFC).

**Temporal Region:**

Temporal compartments (TC).

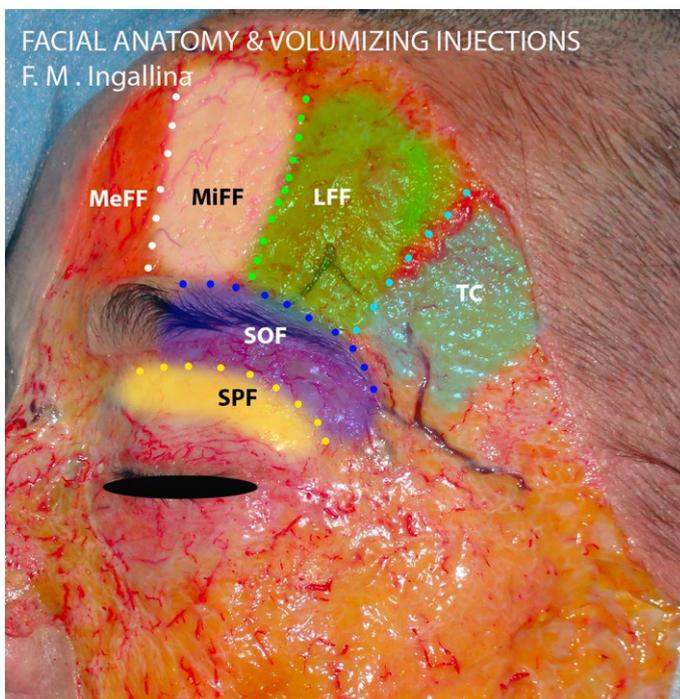
**Superior Eyebrow - Eyelid Region:**

Supra-Orbital Fat Comp. (SOF).  
Superior Palpebral Fat Comp. (SPF).

The Supraorbital Ligamentous Adhesion defines the boundary between the forehead and the superior orbital regions (Blue Dotted Line).

The Lid-forehead junction is the boundary between the superior periorbital region and the superior eyelid. It marks the cutaneous insertion of the Superior Orbicularis Retaining Ligament (Yellow Dotted Line).

The Temporal crest marks the boundary between the forehead and the temporal region and the insertion of superior temporal septum on the dermis (Light Blue Dotted Line).



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MeFF

MiFF

LFF

TC

SOF

SPF