

## **CURRICULUM VITAE**

First name	Brigitte Maud
Last name	Pittet-Cuénod
Birth date	April 8, 1956
Origin	Geneva, Switzerland
Marital status	Married, four children
Address	11 Chemin Claire Vue 1213 Petit-Lancy, Geneva, Switzerland
Phone	022 793 89 65

## **SCHOOLS AND DEGREES**

	Primary and Secondary School in Geneva
1972-1976	Collège Calvin, Geneva "Maturité scientifique" (Scientific Degree "cum laude")
1976-1983	Faculty of Medical School of the University of Geneva
1983	Diplôme fédéral de médecin (M.D.), University of Geneva
1990	ECFMG USA
1995	FMH Chirurgie Plastique et Reconstructive

## **THESIS**

Scaphoïd Fractures : conservative treatment.  
University of Geneva, Faculty of Medicine, Geneva, Switzerland.

## **PRIVAT DOCENT THESIS**

Improving the outcome of reconstructive surgery: from wound healing to flap surgery  
University of Geneva, Faculty of Medicine, Geneva, Switzerland.

## **PROFESSIONAL ACTIVITIES**

- 1983-1986      Residency: General Surgery,  
Geneva University Hospital  
Thoracic Surgery                      - Prof R. Mégevand  
Cardiovascular Surgery               - Prof B. Faidutti  
Intensive Care Unit                    - Prof P. Suter  
Surgical Outpatient Clinic             - Prof MC. Marti
- 1986-1987      Residency: Plastic and Reconstructive Surgery,  
& 1989-1990    (Dr D. Montandon)  
Department of Surgery, Geneva University Hospital
- 1987-1989      Fellowship in Hand Surgery (Dr A. Chamay ), Private Practice in Geneva
- 1990-1992      Research and Clinical Fellowship in Microsurgery  
and Plastic and Reconstructive Surgery ,  
University of Iowa Hospitals and Clinics, Iowa City, USA
- Oct 1992        Chef de Clinique Adjoint: Plastic and Reconstructive Surgery,  
Dpt of Surgery, Geneva University Hospital (Prof. D. Montandon)
- Oct 1995-96    Chef de Clinique: Plastic and Reconstructive Surgery,  
Dpt of Surgery, Geneva University Hospital (Prof. D. Montandon)
- Oct 1996        Chef de Clinique Scientifique: and Reconstructive Surgery,  
Dpt of Surgery, Geneva University Hospital
- Jan 1999        Médecin associé: Plastic and Reconstructive Surgery,  
Dpt of Surgery, Geneva University Hospital
- Oct 2002        Médecin adjointe: Plastic and Reconstructive Surgery,  
Dpt of Surgery, Geneva University Hospital
- Oct 2004        Professeur: Head of the Service of Plastic and Reconstructive Surgery,  
Dpt of Surgery, Geneva University Hospital

## **HONORS AND AWARDS**

- 1992            First prize in the Research Category at the Midwest Association  
of Plastic Surgeons meeting, Bismarck, North Dakota , June 1992  
« Is neovascularization necessary for survival of arterialized-venous flap ».
- 1993            Prize of the Swiss Society of Plastic Reconstructive and Esthetic Surgery.  
« The role of neovascularization in the survival of arterialized venous flap ».
- 1995            First prize, Basic Science, Resident Category at the Midwestern Association of  
Plastic Surgeons, in Iowa City, Iowa, June 8, 1995. P.Cederna : fellow.  
« The effect of the delay phenomenon on the vascularity of rabbit rectus abdominus  
muscle ».
- 1996            Prize of « Association de Beaulieu » - Geneva - Switzerland  
Vidéo film on treatment of children suffering from Noma (Cancrum Oris).  
  
Prizes « Festival International du Film Médical », Amiens, France, 1996

- Prize of « Médecine Humanitaire » - Vidéo film: « Le Noma, maladie dévoreuse de Beauté et de Vie - Expérience chirurgicale en Afrique Sub-Saharienne »
- 2nd Prize of Stomatology and Maxillo-Facial Surgery-«Reconstruction du Palais de l'Os Maxillaire par lambeau sandwich de Galéa».

- 1997 Prize for the best presentation at the Swiss Society of Plastic and Reconstructive Surgery. « Importance de la mort cellulaire contrôlée (apoptose) dans le processus de cicatrisation ». 33<sup>rd</sup> Annual Congress, Lausanne, Switzerland.
- 1999 Prize of the Swiss Society of Plastic and Reconstructive Surgery "Local delivery of bFGF by encapsulated transfected C<sub>2</sub>C<sub>12</sub> myoblasts improves skin flap survival in the rat".  
P. Quinodoz, B. Pittet, MS Pepper, C Rinsch, P Aebischer, D Montandon.  
Work presented by Dr P Quinodoz.
- 2001 Prize of the Swiss Society of Plastic Reconstructive and Aesthetic Surgery "Active-site inactivated FVIIa (FVIIai) increases survival in a random skin flap model of acute ischemia".  
N. Alizadeh, B. Pittet, D. Montandon, M. Pepper.  
Work presented by Dr N Alizadeh
- 2003 "Best Paper" of the 7<sup>th</sup> European Conference of Scientists and Plastic Surgeons (ECSAPS) Meeting. Experimental model to understand the mechanism of survival of arterialized-venous (AV) flap. B Pittet, P Quinodoz, N Alizadeh, K-U Schlaudraff.

## **GRANTS**

- 1990-1991 Swiss Society for Plastic, Reconstructive and Esthetic Surgery;  
Financial Support
- 1990-1991 "Grant for Post-graduate Training".  
Hopital Cantonal Universitaire, Geneva, Switzerland
- 1991-1992 Funding for Research in Microsurgery by the Swiss National Science Foundation
- 1991-1992 Research grant allocated by the Dpt of Surgery, University of Iowa Hospitals and Clinics, for the project: Effect of neovascularization on arterialized venous flaps in the rabbit ear model.
- 1996 Grant from « La Ligue Genevoise contre le Cancer ».  
Grant from « Carlos et Elsie de Reuter »
- 1998 Grant from Swiss National Science Foundation for a two years project : Improving the survival of skin grafts and skin flaps. Project FNRS no. 32-52957.97.
- 2000 Extension of grant from the Swiss National Science Foundation for a period of six months.
- 2003 Grant from Swiss National Science Foundation for a 3 years project: Improving survival and repair of ischemic tissue.  
N° 3200-067251.01

## **MAIN FIELDS OF RESEARCH**

### **WOUND HEALING**

- Hypertrophic scars and keloids. Histological and clinical follow-up. Clinical trial with  $\gamma$  interferon, local radiotherapy and chemotherapy associated with surgical excision (Prof Gabbiani).
- Wound healing physiology and the role of apoptosis in the remodelling phase of the granulation tissue to a scar has been studied on a wound rat model. Induction of myofibroblast apoptosis by wound coverage with non-vascularized (skin grafts) or vascularized tissue (skin, muscle or fat flaps) (Prof Gabbiani).
- Wound healing and ischemia: description of a new animal model of ischemic wounds in rat. Correlation between wound healing delay, decrease in wound contraction and a significant delay in myofibroblast appearance in the wound as well as a decrease in the absolute number of myofibroblasts (Prof Gabbiani, Prof Pepper).

### **MICROCIRCULATION AND ISCHEMIA**

#### **1) SURVIVAL OF ISCHEMIC TISSUE**

- Experimental study on physiology, histology of tissue ischemia and the onset of irreversible necrosis on an ischemic skin flap model in rats. Expression of endogenous VEGF and its tyrosine kinase receptors has been measured in the flap by immunohistochemistry to demonstrate the presence of angiogenesis. VEGF and bFGF were applied under the flap to stimulate in situ angiogenesis using an ex vivo gene therapy approach with transfected cells placed under the flap in semi-permeable capsules to increase flap survival (Prof Pepper, Prof Aebischer).
- Dynamic study of cutaneous blood flow under ischemic condition has been carried out using laser-doppler analysis and microangiography. Inhibition of microvascular thrombosis by parenteral administration of various coagulation inhibitors (inactivated factor VII, rNAPc2) to decrease tissue necrosis under ischemic condition has been successfully tested (Prof Pepper).
- The efficacy of intermittent hypoxia training (IHT) as a hypoxic preconditioning procedure has been tested. IHT consisted of 20 daily sessions of alternative exposure of hypoxic gas mixture and ambient air. A significant decrease of  $PO_2$  during IHT sessions, with a tendency to disappear after 4 weeks of IHT, has been demonstrated. Preconditioning with IHT led to a significant increase of overall flap survival. Analysis of mRNA-expression of vascular endothelial growth factor (VEGF) and its receptors in skin, as well as in the flap, after a 4 week course of IHT to compare rats preconditioned with IHT versus a control group, did not reveal a significant difference.

#### **2) MECHANISMS OF SECONDARY AGGRAVATION OF BURN LESIONS**

Development of an animal model of burn lesion in rats. Analysis of the microcirculation around the lesion by laser-doppler and microangiography to demonstrate the secondary aggravation of the burn lesion. Administration of coagulation inhibitor (rNAPc2) to stop the mechanism of secondary burn extension (Prof Pepper)

### **FLAP SURGERY**

#### **1) ARTERIALIZED-VENOUS FLAPS**

Experimental research on new types of flaps: the arterialized-venous flap. Development of the animal model (rabbit ear), study of the mechanism of survival and the role of neovascularization in this survival. Anatomical classification of the various types of arterialized-venous flap; study of the maximal surface of flap survival based on the anatomy of the vascular venous tree within the flap.

## 2) ANATOMICAL STUDY

Description of a new flap ; the serratus anterior musculo-cutaneous . Based on anatomical dissection, description of the cutaneous perforator vessels reaching the skin paddle (Prof Fasel ).

## **BIBLIOGRAPHY**

### **1. Papers Published in Peer-Reviewed Journals**

- 1) Skalli, W Schurch, T Seemayer, R Lagace, D Montandon, B Pittet-Cuénod and G Gabbiani .  
Myofibroblasts from diverse pathologic settings are heterogenous in their content of actine isoforms and intermediate filament proteins.  
*Lab Invest* ; 60: 275-285, 1989.
- 2) B Pittet-Cuénod, D Della-Santa and A Chamay .  
The total anterior teno-arthrolysis to treat interated flexion contraction of the fingers.  
*Ann Plast Surg* ; 26 : 358-364, 1991.
- 3) B Pittet, L Rubbia, A Desmoulière, AP Sapino, P Roggero, J Guerret, JA Grimaud, R Lacher, D Montandon, G Gabbiani .  
Effect of gamma-interferon on the clinical and biologic evolution of hypertrophic scars and Dupuytren's disease : an open pilot study.  
*Plast. Reconstr. Surg.* ; 93:224-235, 1994.
- 4) B Pittet, P Chang, P Cederna, WF. Blair, AE. Cram.  
The role of neovascularization in the survival of arterialized-venous flap.  
*Plast. Reconstr. Surg.* ; 96: 621-629, 1996.
- 5) D Montandon, R Gumener, B Pittet .  
The sandwich epicranial flaps.  
*Plast. Reconstr. Surg.* ; 97: 302-312, 1996.
- 6) S Garbin, B Pittet, D Montandon, G Gabbiani, A. Desmoulière.  
Covering by a flap induces apoptosis of granulation tissue myofibroblats and vascular cells.  
*Wound Repair and Regeneration* ; 4: 244-251, 1996.
- 7) PS Cederna, Ph Chang, B Pittet-Cuénod, R Razaboni, AE Cram.  
The effect of the delay phenomenon on the vascularity of rabbit rectus abdominis muscles.  
*Plast. Reconstr. Surg* ; 99: 194-205, 1997.
- 8) PS Cederna, Ph Chang, B Pittet-Cuénod, R Razaboni, AE Cram.  
The effect of the delay phenomenon on the vascularity of rabbit abdominal cutaneous island flaps.  
*Plast.Reconstr. Surg.* ; 99: 183-193, 1997.
- 9) B Pittet, R Gumener, D Montandon.  
Gigantic neurofibromatosis of the orbit, a case report,  
*J. Craniofacial Surg.*; 8: 497-500, 1997.
- 10) M Richter, P Dulguerov, B Pittet, M Becker.  
Immediate function of temporo-mandibular joint after total resection and reconstruction - Report of an original technique.  
*J. Craniofacial Surg.*; 8: 383-390, 1997.
- 11) B Pittet, D Montandon.  
Nasal reconstruction in children : a review of 29 patients.  
*J. Craniofacial Surg.*; 9 : 522-528, 1998.
- 12) S. Vialov, B Pittet, D Montandon, B Rilliet.

- Craniofacial reconstruction of giant cyst-like temporal encephalocele.  
*Annals of Plastic, Reconstructive and Aesthetic Surgery*; 3: 35, 1998.
- 13) B Pittet, B Rilliet, S Vialov, D Montandon.  
The role of plastic surgery in the correction of anterior cephaloceles.  
*C.D.Rom European Plastic Surgery*; 1: 2, 1998.
  - 14) D Montandon, B Pittet.  
Chirurgie plastique humanitaire. Expérience personnelle et réflexions.  
*Ann Chir Plast Esth.* ; 44-1: 27-34, 1999.
  - 15) S Mariéthoz, B Pittet, L Loutan, J Humbert, D Montandon :  
L'anémie falciforme et la malaria à Plasmodium falciparum : une menace pour la survie des lambeaux ?  
*Ann Chir Plast Esth.*; 44-1: 81-88, 1999.
  - 16) B Pittet, S Vialov, B Rilliet, D Montandon :  
Craniofacial reconstruction of giant cyst-like temporal encephalocele.  
*The Journ. of Craniofacial Surg.*; 10-5: 435-438, 1999.
  - 17) S Vialov, KP Pshenisnov, D Montandon, B Pittet :  
Modern concepts in wound healing process  
*Annals of Plast. Reconst and Aesth. Surg. Russia*; 1: 49-56, 1999.
  - 18) D Montandon, JF Egger, B Pittet, S Vialov.  
Plastic surgery of the eyebrows on developmental anatomy.  
*Italian Journ. of Anatomy and Embryology*; 104: 466,1999.
  - 19) B Pittet, B Rilliet, S Vialov, D Montandon.  
Correction of temporal encephalocele.  
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  - 20) SJ Mandriota, C Pyke, C Di Sanza, P Quinodoz, B Pittet, MS Pepper.  
Hypoxia-inducible angiopoietin-2 expression is mimicked by diphenylene iodonium and occurs in the rat brain and skin in response to systematic hypoxia and tissue ischemia.  
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  - 21) Quinodoz P, Huguier V, Pittet B, Montandon D.  
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  - 23) B Pittet, A Cheretakis, D Montandon.  
Correction des rétractions cervicales après brûlures par lambeau musculo-cutané pédiculé du grand dorsal.  
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- 26) P Quinodoz, M Quinodoz, JL Nussbaum, D Montandon, B Pittet  
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- 28) N Alizadeh, B. Pittet, C Pyke, X Tenorio, D Montandon, M Ezban, MS Pepper.  
Active-site inactivated FcγRIIIa increases viability in a random skin flap model of acute ischemia.  
*Journal of Surgical Research*; 122 (2): 263-273, 2004
- 29) D Baratti-Mayer, B. Pittet, D Montandon  
Une recherche médicale de pointe à but humanitaire.  
*Annales de chirurgie plastique et esthétique* ; 49: 302-305, 2004.
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La chirurgie plastique humanitaire en question.  
*Annales de chirurgie plastique et esthétique* ; 49(3) : 314-319 2004
- 31) CE Juge-Aubre, E Somme, R Chicheportiche, D Burger, A Perrin, B Pittet, P Quinodoz, V Giusti, JM Dayer, CA Meier  
Regulatory effects of interleukin (IL)-1 interferon Beta and IL-4 on the production of IL-1 receptor antagonist by human adipose tissue.  
*Journal of Clinical Endocrinology & Metabolism* ; 89 (6): 2652-2658, 2004.
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Simultaneous correction of major hypertelorism, frontal bone defect, nasal aplasia and cleft of the upper lip (Tessier 0-14)  
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- 33) B Pittet, A Mahajan, N Alizadeh, KU Schlaudraff, J Fasel, D Montandon  
The free serratus anterior flap and its cutaneous component for reconstruction of the face: a series of 27 cases.  
*Plastic & Reconstructive Surgery*, 117 (4): 1277-1288, 2006