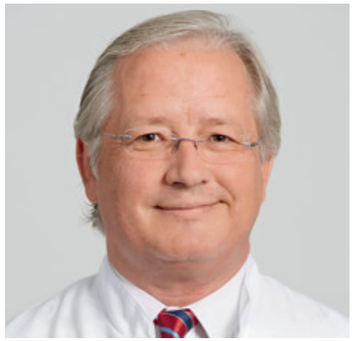
OUR PHARMACOGENETICS SPECIALIST



Prof. Dr. Thomas D. Szucs
FMH (Swiss Medical Association)
Specialist in Pharmaceutical Medicine
FMH (Swiss Medical Association)
Specialist in Preventative Medicine

«The Practice of Personalised Medicine at Klinik Hirslanden wants to use their diagnostic skills to help provide an individually tailored drug regime for every patient. We are convinced that pharmacogenetic analysis performed under sound established criteria contributes to both reducing the risk of medical complications and enabling safe and effective drug treatment.»

The Practice for Personalised Medicine works together with the following institutions:

- Genetics Center Zurich (PD Dr. Gabor Matyas, FAMH Institute of Medical Molecular Genetics)
- bio.logis Center for Human Genetics, Frankfurt (Prof. Dr. Daniela Steinberger, Specialist in Human Genetics)

For questions regarding pharmacogenetics and other services offered by the Practice for Personalised Medicine, please contact us at
T +41 44 387 39 90 or
personalisierte.medizin@hirslanden.ch

Any references in all contributions always correspond to persons of both sexes.

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T +41 44 387 35 35

PRAXIS FÜR PERSONALISIERTE MEDIZIN
KLINIK HIRSLANDEN
WITELLIKERSTRASSE 40
CH-8032 ZÜRICH
T +41 44 387 39 90
F +41 44 387 39 91
PERSONALISIERTE.MEDIZIN@ HIRSLANDEN.CH

WWW.HIRSLANDEN.CH

855 687 500 05/14 bc medien ag

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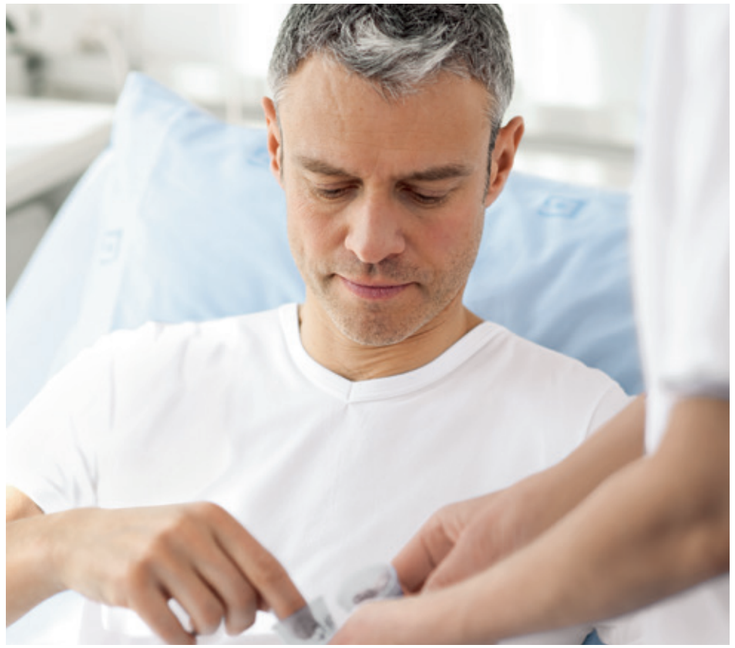
PRACTICE FOR PERSONALISED MEDICINE

THE PRACTICE FOR PERSONALISED MEDICINE AT KLINIK HIRSLANDEN CAN INCREASE SAFETY FOR YOUR PATIENTS USING PHARMACOGENETICS AND INDIVIDUALISED MEDICINAL THERAPY.



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SPECIALISED DIAGNOSTICS

The study of human genetics has developed significantly over the last few years. Genetic variants important for the processing of medication and other substances by the human body have been identified. This relatively new branch of research is called «pharmacogenetics». As a competence centre for pharmacogenetics, the Practice for Personalised Medicine at Klinik Hirslanden focuses on the analysis of genes that influence the evaluation and effectiveness of certain drug treatment.

The varying individual levels of tolerability of medications pose a daily challenge for the treating physician. In some patients, the administration of a specific drug may have positive effects on the progression of a disease, but in others the initiated therapy is unsuccessful. In some cases, even adverse drug reactions may occur.

CAUSES AND CONSEQUENCES OF DRUG INTOLERANCE

Studies have shown that in up to half of all patients being treated with medications such as beta blockers, antidepressants or fat-lowering drugs, the therapeutic benefit is insufficient or the treatment may even have to be stopped due to drug intolerance. Drug intolerance can manifest itself in many different ways, such as prolonged or non-existent effect, interactions with other drugs or even as life-threatening complications.

Causes of drug intolerance may be age, eating habits, state of health, environmental factors or concomitant therapeutic measures. In addition, genetic differences play an essential role in the occurrence of adverse drug reactions. The Practice of Personalised Medicine therefore focuses on genetic analyses to ensure that the type and dose of drug therapy may be individually adjusted for each patient, with the aim for more desirable and fewer undesirable drug-induced effects. In this way, drug therapy can be made safer and more effective.

Genetic analysis may be useful when taking the following medications:

Class of drug	Active ingredient
Antiplatelets	Clopidogrel (Plavix®)
Beta-blockers	Carvedilol
	Metoprolol
ACE Inhibitors	Irbesartan (Aprovel®)
Cholesterol-lowering (statins)	Fluvastatin
	Simvastatin
Blood thinners (coumarin derivatives)	Phenpro-coumon (Marcomar®)
Painkillers (analgesics/ anaesthetics)	Phenacetin, Paracetamol (Dafalgan®)
	Codeine
	Diclofenac, Ibuprofen
	Fentanyl (Durogesic®)
	Tramadol
	Propofol
	Diazepam (Valium®)
	Lidocain
Antidiabetics	Glibenclamid
Diuretics	Torasemid (Torem®)
Stomach acid blockers (proton pump inhibitors)	Omeprazole (Antra ®)
	Lansoprazol (Agopton®)
Oral contraceptives (birth control pill)	Various preparations

FREQUENTLY ASKED QUESTIONS

How does a pharmacogenetic analysis work exactly?
The procedure is very simple for our patients. They can be referred by their attending doctor or can make an appointment directly with us. They will then receive a kit for saliva sampling sent directly to their home. The sample is returned to the practice and will be analysed by our certified lab partner. Finally, the results are discussed personally in detail with the patient. If so wished, the patient can provide a saliva or blood sample in our practice without making an appointment.

What is the difference between a genetic test and a pharmacogenetic test?
As a rule, a genetic test attempts to uncover evidence of the causative genetic modification through the breakdown of a person's genome. In contrast, pharmacogenetic tests search for genetic differences that determine the metabolism, as well as the effects and side effects of medications. «Genetic» and «pharmacogenetics» tests pursue fundamentally distinct goals and should therefore be assessed differently due to ethical, legal and social points of view.

Why is the subject of genes normally not, or only rarely, addressed at the doctor's office?
Patients have always been asked by the doctor about their family history during the medical interview. This is an important part of medical screening and may provide a clue to aid in diagnosis and the determination of a possible therapy. A further reason why molecular genetics was not as widely addressed by doctors in the past was the extremely high cost of analysis. This has fallen dramatically in recent years.

How secure is my data?
The user's results are connected exclusively to the anonymous user name in the practice. Only the practice can make a connection between a user name and the personal data.

What happens to the sample after screening?
The sample may be stored for further tests or destroyed, if so desired. If the DNA is stored in the laboratory, any follow-up procedures can be made at a discounted price as the cost of resampling and materials needed are eliminated.