University Children’s Hospital Tübingen
On November 17, 1998, the University Children’s Hospital relocated to a newly-constructed building on the Schnarrenberg hill. Four departments were thus brought together under one roof.

Neonatology, the fifth department, continues to be linked with the University Obstetric Hospital, in the best interest of preterm born babies and newborns.

On January 7, 2002, the chairs of each department came to a mutual agreement on rules of internal procedures, and decided to install a centralised administration.

**We are committed to support you.**

The Children’s Hospital is committed to this motto of the University Hospital Tübingen and set up its own mission statement accordingly. This statement defines attitude and goals towards patients, parents and colleagues.

The following pages offer an overview of our organisation and the hospital specialities of our various departments and sections.

Please visit our website for further information:

[www.medizin.uni-tuebingen.de/kinderklinik/](http://www.medizin.uni-tuebingen.de/kinderklinik/)
Children are no little adults
This maxim has led the executive management of the University Hospital in its explicit endeavour to introduce structural improvements at the University Children’s Hospital. The relocation to a modern hospital building and the organisational changes involving a new concept of administration has proven to be assets. We successfully concluded this process by retaining and maintaining the five professorships held by internationally well-known experts.

Children are our future
It is this outlook that enables us to keep our focus on their treatment and care, and – more importantly – to provide them with the appropriate services in a centre of excellence. Through the convergence of our hospital into the larger network of the hospital centre, we are in a position to offer our young patients the entire range of diagnostic and therapeutic methods encompassed by state-of-the-art medicine under a single roof.

Prof. Dr. med. Michael Bamberg

Executive Medical Director of the University Hospital

Prof. Dr. med. Michael Bamberg
The dual management – medical and operational manager – of the University Children’s Hospital with its five chairs in paediatrics and paediatric surgery was established in 2002 and takes a multidisciplinary approach to the strategic planning process and is responsible for representing the hospital in public.

After more than five years of experience with this organisational structure, it is obvious that we can meet the challenges in medical care, in scientific research and in education.

The focus of attention is on patients. Our patients benefit directly from the clinical application of research findings as well as from an economical resource management.

And despite heavy cost pressure over the past few years, we have been able to extend maximum care to our patients and, at the same time to keep up our reputation among patients and employees.
General Paediatrics, Oncology/Haematology

Main focuses

Oncology/Haematology
The department of oncology/haematology is certified (GB-A) for treatment of children with cancer. Approximately 60 - 70 children per year are newly diagnosed and receive treatment. The department participates in German multi-centre trials, but is also active in the evaluation of new treatment approaches, especially for children with leukaemia, neuroblastoma, and other solid tumours.

Bone marrow/stem cell transplantation
Approx. 50 - 60 stem cell transplantations are performed per year. A special focus is on haploidentical stem cell transplantation, where the parents of the patients are stem cell donors. A certified laboratory allows stem cell processing and various cellular therapies according to Good Manufacturing Practice (GMP) guidelines. With more than 100 haploidentical transplants for malignant and non-malignant diseases, including immunodeficiencies and neurometabolic storage diseases, the department is currently the largest paediatric center for this highly specialized transplant approach worldwide. An additional focus is the transplantation of mesenchyme stem cells and the adoptive transfer of virus-specific T-lymphocytes.

Organ transplantation
Liver and kidney transplantations are performed hand in hand with a highly trained multidisciplinary team which especially focuses on small children with very low body weight who are not regarded as transplant candidates in other centres due to their weight limitations. In 2007, 8 children and adolescents received a liver transplant, the youngest only weighed 4.1 and 3.9 kilos, and were the smallest organ recipients so far in Germany.

Additional clinical areas and fields of research
» Hormonal and growth disturbances, allergology/asthma, cystic fibrosis
» Nephrology (ECP including dialysis and photopheresis)
» Severe autoimmune diseases (autologous stem cell transplantation)
» Intestinal diseases, diagnosis and treatment of liver diseases, short bowel diseases, endoscopy and gastroscopy for chronic inflammatory intestinal diseases (IDB)
» Long-term outcome studies after chemotherapy and allogeneic transplantation
Paediatric Cardiology, Pulmology, Intensive Care Medicine

Main focuses

**Congenital heart diseases**
We treat neonates, infants, children and adolescents with congenital and acquired heart diseases, cardiovascular- and pulmonary disorders. Surgery of cardiac defects is performed in close cooperation by the Department of Thoracic and Cardiovascular Surgery.

**Cardiovascular imaging**
The department runs an own cardiac catheterization lab with biplane fluoroscopy, cineangiography and digital subtraction angiography. We offer the full spectrum of diagnostic and interventional cardiac catheterizations. Noninvasive diagnostic modalities include echocardiography, MRI and multislice-computertomography in cooperation with the Department of Radiology.

**Cardiac arrhythmias**
We offer the complete spectrum of diagnosis and therapeutic modalities for treatment of congenital or acquired cardiac arrhythmias including ICD-implantation. In cooperation with the Department of Cardiology we offer advanced 3D diagnostic tools (CARTO/Ensite).

**Intensive care medicine**
The intensive care unit is responsible for the treatment of neonates, children and adolescents with congenital cardiac disease and postoperative treatment (cardiac and brain surgery, paediatric surgery, liver, kidney or bone marrow transplantations) and emergency treatment including accidents and burns.

**Paediatric patient security and simulation center PädSim**
PädSim represents a new concept of a patient security and simulation center in cooperation with the TÜPASS training center of the Department of Anaesthesiology (training courses with baby simulators).

**Additional clinical areas and fields of research**
- Pulmology, respiratory diseases of newborns and infants
- Long-term treatment of univentricular hearts
- Hemostaseology and coagulation disorders
Neuropaediatrics, Developmental Neurology, Social Paediatrics

Main focuses

Early brain lesions
Consequences and compensation (cerebral palsy) with a research focus on plasticity and reorganisation.

Epilepsies
Diagnosis and treatment of epilepsies and other paroxysmal conditions, including epilepsy surgery and pre-surgical monitoring in cooperation with the Department of Neurosurgery.

Developmental disorders
Diagnosis and treatment of motor, language and cognitive developmental disorders and chronic neurologic disorders (Social Paediatric Center).

Leukodystrophies
Neurolipidoses, as metachromatic leukodystrophy, clinical diagnosis and management (neurometabolic laboratory).

Cerebro-vascular disease
Diagnosis and management; research focus on non-invasive cerebral blood flow measurement.

Diabetes mellitus
The hospital is a specialized center for the treatment of diabetes mellitus in children and adolescents.

Additional clinical areas and fields of research
» Follow up of premature infants
» Botulinum toxin treatment
» Paediatric management of neurosurgical and neuro-orthopaedic diseases
» Hydrocephalus, spina bifida and craniofacial malformations
» Neuromuscular disorders
» Sleep medicine including mechanical nocturnal respiratory support
Neonatology

Main focuses

Caring for the newborn and their parents
Neonatologists are involved already in prenatal diagnosis in cooperation with the University Obstetric Hospital. They care for all newborn babies and advise their parents in all questions concerning development and prevention. If necessary, outpatient care after discharge is provided.

Intensive care medicine for newborn and preterm born babies
Intensive care for newborn and premature infants with state of the art technology and highly qualified staff. Diagnostic procedures such as ultrasound, radiography, EEG, and echocardiogram, if necessary, are carried out bedside. Parents are involved and trained in their babies' care.

Respiratory disorders
Diagnosis and treatment for sleep-related respiratory disorders in modern sleep laboratories. Two laboratories are especially equipped for newborns, children and adults. In cooperation with the Department of Orthodontics and Otorhinolaryngology we can offer the whole range of treatments.

Dysgnathia
Severe malformations such as the Pierre Robin Sequence are treated with the innovative therapy concept “Tübinger Atmungsgaumenplatte” (Tübinger palate plate). This plate closes the open palate, induces growth of the mandible and especially facilitates breathing. Cooperation partners are the Department of Orthodontics and the Department of Oral and Maxillofacial Surgery.

Additional clinical areas and fields of research
» Infantile sleep disorders
» Biosignal processing
» The immune system of premature children and newborn
» Clinical studies in neonatology
» Obstructive respiratory disorders
» Preventing CMV infections via breast milk
» Pathophysiology of the lipid metabolism
Paediatric Department V

Medical Director

Prof. Dr. med.
Jörg Fuchs

Personal Data

University Hospital
Dresden
1988 - 1990
University Hospital
Mannheim
1990
Medical School
Hannover
1991 - 2002
University Children’s Hospital
Tübingen
since 2002

Paediatric Surgery

Main focuses

Newborns and congenital malformations
The surgical treatment of congenital disorders is based on modern treatment principals providing adequate quality of life for the most common pathological conditions with good functional results. Several disorders are treated by minimal invasive surgery (tracheo-esophageal fistula, diaphragmatic hernia, and lung malformations).

Paediatric urology
The Department of Paediatric Surgery represents a centre for congenital urologic malformations (e.g. bladder extrophy, vesicoureteral reflux, ureteral stenosis). The institution is one of the leading national centres for minimally invasive paediatric urology.

Tumour surgery
For the surgical treatment of paediatric tumours, our department is a registered reference center for hepatic and renal tumours as well as for soft tissue sarcoma within the German Society for Paediatric Haematology and Oncology (GPOH) and the International Society of Paediatric Oncology (SIOP).

Traumatology
The treatment of severely injured children is one of the main responsibilities of paediatric surgery and paediatrics. Cranial, cerebral and spinal injuries are treated in a multidisciplinary approach.

Additional clinical areas and fields of research
→ Lung surgery in children and infants
→ Burns and scalds
→ Intestinal endoscopies
→ Abdominal surgery for bile duct malformations, pancreas surgery, and portal vein disorders, etc.
→ Oncological research
→ Hirschsprung’s disease and necrotizing enterocolitis
→ Stem cell research for congenital malformations and tumours
→ Clinical research within GPOH studies
→ Biliary atresia
A centre of excellence in paediatrics

Multidisciplinarity at our hospital

Cancers and tumours
We take a state-of-the-art approach in diagnosis and therapy of childhood cancer and severe congenital immune defects. The most modern imaging techniques, methods of cell therapy and surgical advancements are available at our hospital.

Neonatal surgery congenital malformations
Obstetricians and paediatricians work together closely in the centre of excellence for prenatal diagnostics. Up-to-date surgical methods ensure the best possible functional and cosmetic outcome in children with congenital malformations.

Sleep medicine/pulmonology
We carry out investigations to clarify problems such as stridor, snoring, apnea, and obstructed breathing, as well as cyanoses involving life-threatening conditions and sleeping disorders such as insomnia. Methods include bronchoscopy and different lung function measurements also for infants.

Multidisciplinary Intensive Medicine
The multidisciplinary intensive care unit is responsible for the postoperative treatment and emergency care of newborns, children and adolescents with congenital cardiac defects and other congenital malformations, tumours, transplantations of liver, kidney or bone marrow, or after accidents or burns.

Paediatric reanimation training PädSim
PädSim is designed by the Tübinger Patientensicherheits- und Simulationszentrum (patient safety and simulation centre, TÜPASS) and the intensive care unit for children, and offers the spectrum of crisis management training.

Social medical care
This is provided to families with children or adolescents with severe or chronic disease and assists patients in coming to terms with daily life after being discharged from hospital.

Paediatric Study Registry
The majority of medications intended for children are still awaiting approval. Comprehensive studies are required before drugs are administered to children. The Paediatric Study Registry is one of the rare bodies in Germany which supports the implementation of clinical studies.
Research networks

The University Children’s Hospital participates in the following networks and groups:

**In Tübingen**

**Sonderforschungsbereich 550 (Special Research Area 550):**
Recognising, locating, acting – neurocognitive mechanisms and their flexibility

**Sonderforschungsbereich 685 (Special Research Area 685):**
Immune therapy – molecular basis and clinical application

**Exzellenzcluster CIN (Excellence Cluster CIN):**
Centre for Integrative Neuroscience

**BMBF group project (Federal German Ministry of Education and Research):**
Clarification of the glycan function in biological systems

**Tumorchirurgie (Tumour surgery):**
A paediatric reference centre for liver, kidney and soft tissue tumours

**In Germany**

**Kompetenznetz angeborener Herzfehler, BMBF (Centre of Excellence for Congenital Cardiac Defects):**
An association of paediatric and adult cardiologists which connects scientists, doctors and patients

**Leukodystrophiennetzwerk Leukonet (Leukodystrophy Network Leukonet):**
Epidemiology and the description of the natural course of metachromatic leukodystrophy and Morbus Krabbe

**International**

**Surveillance of Cerebral Palsy in Europe – SCPE (EU support programme):**
An European network of clinical and epidemiological studies on cerebral palsy

**NEUROSIS (EU support programme):** A randomised and controlled European multicentre study on the effectiveness and safety of inhaled steroids in the prevention of chronic lung defects among very premature children

**Baden-Württemberg/National University of Singapore – support programme:** “Pre-immunization of parental stem cell donors against leukaemia-specific mutation SNPs for adoptive transfer (Parents against Leukaemia)”
Network care
Referrals of inpatients to Tübingen in 2007

- more than 2,000
- 1,000 - 2,000
- 1,000 - 400
- 100 - 400
- 50 - 100
- 10 - 50

- 356 outside Baden-Württemberg
- 82 outside Germany

Paediatric maximum medical care

The allocation of diagnosis related groupings (DRG) enables to identify disease patterns which are very rare and extremely costly in treatment – so-called “maximum medical care suppliers DRG”.

<table>
<thead>
<tr>
<th>Department</th>
<th>Percentage of maximum medical care suppliers Tübingen*</th>
<th>Reference value**</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Paediatrics</td>
<td>23%</td>
<td>16%</td>
</tr>
<tr>
<td>Haematology/Oncology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paediatric Cardiology</td>
<td>34%</td>
<td>34%</td>
</tr>
<tr>
<td>Neuropaediatrics</td>
<td>17%</td>
<td>10%</td>
</tr>
<tr>
<td>Neonatology</td>
<td>45%</td>
<td>40%</td>
</tr>
<tr>
<td>Paediatric Surgery</td>
<td>16%</td>
<td>8%</td>
</tr>
</tbody>
</table>

* Percentage of all patients who received maximum medical care in 2007
** Comparative values within university hospitals in Germany
Medical education

**Educational target catalogue**
The Paediatric Department has re-defined the educational targets, based on the new education regulations for physicians. It has combined these in its own educational target catalogue.

In addition to the transfer of knowledge, the focus is mainly on the practical aspects of diagnosis and treatment. The main goal is to convey the fascination of working with children, adolescents and their families to students.

**Practice- and patient-centred**
The concept “weekly practical course in pediatrics” won the federal state education award of Baden-Württemberg.

This concept has been established now for 20 years and is being further refined. It involves a tutor who guides the students. The importance of the practical aspects and the close work with children is highly appreciated by students.

**Modern didactic concepts**
The main lecture sequence on Paediatrics and the seminar on differential diagnostics in Paediatrics are interconnected. This enables students to apply their knowledge under competent supervision in an active and largely independent way.

The design and implementation of this didactic system continues to receive top rankings from the student evaluation system (Online-Evaluation "tuevalon").

**Paediatric curriculum in Tübingen**
- 1 week examination course (2nd clinical semester)
- Week-long practical course, 1 week (5th clinical semester), main lecture sequence of 5 weeks (6th clinical semester)
- Differential diagnosis seminar, 2 weeks, interactive (6th clinical semester)
- Clinically-oriented seminars dealing with miscellaneous areas in pediatrics (TüKliS)
Support for children and their parents

Integrated care

Psychosocial care
The illness suffered by a child inevitably affects its family. The psychosocial care unit offers support and advice as well as psychosocial diagnostics and therapy.

Accommodation for parents and siblings
These houses provide accommodation for and offer general care to family members.

Physiotherapists – speech therapists – ergotherapists
Treatment is based on approved and modern therapy concepts.

Educators – playrooms – hospital clowns
Each ward has its own playroom. Playing, creative work and visits by clowns help the children to cope with the challenges of a hospital stay.

Hospital school
The hospital school offers tuition to children and adolescents whose stay in hospital is protracted or who often have to miss school classes due to chronic illnesses. We support our young patients in attending their own schools and offer advice for illness-related school problems. We also offer home-schooling and compensation of disadvantages due to illness.

Nutrition counseling
A proper diet can directly influence many illnesses for the better. Individual training schemes and practical exercises enable our patients to follow a sensible therapeutic diet.

Pastoral care in the hospital
We offer dialogue, counseling and emotional support irrespective of denomination and religious beliefs.
### The hospital team

#### Physicians
- Specialized in paediatrics: 69
- Having a PhD or professorship: 13
- Physicians in training: 30
  - Specialized in child psychiatry: 1
  - Specialized in anaesthesiology: 1

#### Further specialisation
- Paediatric surgery: 7
- Paediatric cardiology: 9
- Haematology/Oncology: 4
- Neuropaediatrics: 4
- Neonatology: 12
- Sonography (certification): 1
- Sleep medicine: 2

#### With additional training
- Intensive care: 60
- Oncology: 6
- Diabetes consultation: 2
- Cystic fibrosis: 1
- Kinesthetic trainer: 1
- Kinesthetic basic course: 188
- Kinesthetic advanced course: 96
- Peer tutors: 16
- Practice instructor: 13
- Breastfeeding and lactation specialist: 1
- Dialysis: 3
- Reanimation trainer: 2

#### Over 3 years' professional experience
- Paediatric surgery: 33
- Paediatric cardiology: 18
- Oncology: 27
- General paediatrics: 22
- Neuropaediatrics: 20
- Neonatology IMC: 47
- General intensive medicine: 18
- Intensive medicine Neo: 11

#### Therapists
- Physiotherapists: 13
- Ergotherapists: 2
- Speech therapists: 2

#### Non-medical areas
- Psychosocial care: 7
- Educators: 5
- Administration: 17

---

### Nursing care

#### Physicians
- Paediatric nurses: 307
- Paediatric nurses in training: 60

#### With additional training
- Intensive care: 60
- Oncology: 6
- Diabetes consultation: 2
- Cystic fibrosis: 1
- Kinesthetic trainer: 1
- Kinesthetic basic course: 188
- Kinesthetic advanced course: 96
- Peer tutors: 16
- Practice instructor: 13
- Breastfeeding and lactation specialist: 1
- Dialysis: 3
- Reanimation trainer: 2

#### Employees who are not paid with third party funds
- Scientists: 6
- Assistant medical technicians: 16
Employee qualifications

With 12,000 inpatients and 40,000 out-patients, the hospital guarantees specific care for children and adolescents in Baden-Württemberg.

Physicians and nurses obtain special additional trainings for this task.

For physicians the hospital not only offers certified training in paediatrics, but also in the following areas:

**Specialist area**
- Paediatric cardiology
- Neuropaediatrics
- Neonatology
- Oncology

**Additional training**
- Rheumatology
- Gastroenterology
- Endocrinology and Diabetology
- Pulmonology
- Intensive Medicine
- Sonography

For nurses the hospital not only offers certified training in paediatric nursing, but also in the following areas:

**Additional training certification for:**
- Paediatric intensive care
- Intermediate care qualification
- Oncological care
- Artificial respiration at home
- Practice instructor

**Further training programmes**
- Kinaesthetic infant handling
- Ethics
- Reanimation training
- Executive training

Quality

**Certifications**
- Certified GMP laboratory
- Certified bone-marrow transplantation ward
- Accredited endocrine laboratory
- KTQ-certification pending
  (KTQ: cooperation for transparency and quality in health care)

**Quality management measures**
- Reporting system for critical events
- Work group Guidelines
- Work group Pain
- Work group Quality Management
- Work group Decubitus
- Work group Process Improvement
- Work group Palliative Medicine
- Development advancement in neonatology (NIDCAP)
- Socio-medical care
- Multidisciplinary and professional group related case conference

**Opinion survey results**

Recommendation quote: 97.4 %
Survey among 2,537 parents in 2007
Source: Picker-Institut

Employee satisfaction: 80 %
Survey among all employees in 2007
Source: AOK
Donations and support associations

The families of children and adolescents suffering from severe and chronic diseases need special support.

Donations into special funds enable us to offer qualified and comprehensive treatment to children and their families in need.

» Hilfe für kranke Kinder e.V. (Help for sick children)
» Stiftung für kranke Kinder Tübingen (The Sick Children Trust in Tübingen)
  Dietrich-Niethammer-Stiftung
» Förderverein für krebskranke Kinder e.V. Tübingen
  (Support for children with cancer)
» E.L.H.K.E. – Elterninitiative herzkranker Kinder e.V.
  (Parent initiative for children with cardiac defects)
» Tübinger Förderverein für Kinder und Jugendliche mit Diabetes
  (Support for children and adolescents with diabetes)
» FöhreKids e.V. – Förderverein für an Rheuma erkrankte Kinder und Jugendliche mit Rheumatism
  (Support for children with arthritis)
» Mukoviszidose, CF-Selbsthilfe (cystic fibrosis self-help group)
  Regionalgruppe Zollernalb/Tübingen
  (Regional association Zollernalb/Tübingen)
» Förderverein Kinder-Anfalls-Ambulanz Tübingen e.V.
  (Support for children suffering from seizures)
» F.U.N.K. – Förderverein zur Unterstützung neurologisch erkrankten Kinder Tübingen e.V. (Support for children suffering from neurological diseases)
» Delfin – Förderverein für die Tübinger Kinderchirurgie e.V.
  (Support for paediatric surgery in Tübingen)
» Lichtblick – Verein für Eltern Frühgeborener und Risikoneugeborener Tübingen e.V. (Support of parents of prematurely-born children facing high-risks)
» Geschwisterhaus Tübingen e.V. (Accommodation for siblings/families)

Kranke Kinder ans Netz
The “Kranke Kinder ans Netz” (sick children online) project enables patients to keep in touch with their friends, family and school via laptop and internet. Tuition at the hospital thus becomes more efficient and wide-ranging, and the sick children do not lose contact with their schoolmates – that spells hope for a better future.