**Andrology - Men`s health.**

**Extensive consultation. Individual therapies.**

Andrology – the science of men’s health – is dedicated to the great variety of problems in male sexuality during all stages of life and therefore represents the male counterpart of gynaecology.

The treatment spectrum of our andrology consultation hour is widely diversified. The most frequent clinical pictures and concerns are varicoceles, congenital or acquired curvatures of the penis, the unfulfilled desire for children or questions about family planning. We also see patients with erectile weakness or abnormalities in ejaculation, inflammations of the sexual organs or disorders of the male hormonal balance.

Cooperations with other clinics and institutes make it possible for us to offer an interdisciplinary treatment with the most direct route. It should be emphasised that there is a close cooperation with the Fertility Centre of the University Gynaecological Hospital and the Institute for Medical Genetics in the care for couples with the desire to have a child.

The goal is to offer each individual patient a targetoriented diagnosis and subsequently work out an individual suggestion for therapy. Long years of experience and continuous advanced training of the junior urology staff ensure a treatment with the up-to-date state of knowledge in the field of andrology.

**Prostate**

**Prostate Cancer.**

Prostate cancer is the most common type of cancer (26%) and the third most common cause of death among male cancer patients in Germany (10%). Over recent years, the incidence rate has increased steadily, ranging around 63,400 in 2008. As regards incidence rates, there is a significant difference between industrialised countries and developing countries. In Europe, the incidence rate is about 87/100,000, which is nearly 20 times higher than in Asian countries such as China and Japan (4/100,000).

Within Europe, the incidence rate in Scandinavia is significantly higher than in the Mediterranean region. Counting 58,000 new diagnoses in Germany, prostate cancer accounted for about 25% of newly diagnosed
malignant diseases among male patients in 2004. Overall, three-quarters of all cases are diagnosed in men aged over 65 years. This is also reflected in the age-related incidence rate of 1-2/100,000 among 40-year-old patients compared to 1,200/100,000 among 80-year-old patients.

A clear reason for the significant difference between individual countries and ethnic groups has so far not been identified. It is most likely attributable to multiple factors. Genetic and environmental factors as well as diet are believed to play a role in aetiology. Body height, weight, smoking and alcohol as well as sexual activity have no influence on the risk of prostate cancer.

However, screening programmes and targeted initiatives as well as the associated education of patients play an important role. The possibility of detecting especially asymptomatic tumours at an early stage by means of the PSA test is available in industrialised countries rather than in emerging countries. In particular in the U.S., PSA-based screening is widely used and is probably the main reason for the increase in incidence rates. This has entailed a stage and age shift, with early prostate cancer stages having increased considerably, especially among young men.

Prostate cancer screening is now among the most commonly performed screenings in male patients and forms an essential part of urological practice. It consists of several parts, each of which having a different clinical value in the early detection of prostate cancer. The major pillars of prostate cancer screening include the digital rectal examination, the measurement of serum PSA (prostate-specific antigen) levels as well as the transrectal ultrasonography. In the case of specific issues, additional methods, such as magnetic resonance imaging, special ultrasound-based techniques or urine analyses (e.g. PCA3), can be employed.

**Special knowledge. State-of-the-art therapies.**

As operative-surgical or even conservative-medicinal, the treatment of prostate carcinoma is among the University Hospital Tübingen's special strengths. Prostate carcinoma is the most frequent male tumour disease and therefore very significant for the Urological Clinic. Consequently, a functioning urological oncology unit also requires proven standards in its diagnosis and therapy. These standards are achieved within the scope of a certified Prostate Carcinoma Centre. Weekly tumour conferences (MDT—Multidisciplinary Team), pre- and post-therapeutic— as well as interdisciplinary consultation hours are the backbone of the Prostate Carcinoma Centre.
Illustration of a prostate gland’s tumour-bearing area based on a large-surface section.

Especially patients with high-risk prostate carcinoma benefit from the comprehensive consultation. The robot-assisted transperineal prostate biopsy serves as the basis for active monitoring. By means of image fusion, this procedure can essentially improve the prostate biopsy and make reproducibility within the scope of active monitoring possible in the first place. As a result, this procedure opens up a new horizon in the diagnosis and therapy of prostate carcinoma.
Circulating tumour cells in the blood vessels: New methods make it possible to detect them.

The radical prostatectomy is possible by means of open surgery, laparoscopy and the da Vinci® robot. Above all, the systemic therapy has an essential significance in the metastasis stage. The access to studies allows patients to receive state-of-the-art therapies under controlled conditions. Innovation and evolution are motivating forces in the further development of therapy for prostate carcinoma.

**Further information:**

- Direct link to diagnosis
- Direct link to treatment
Urinary bladder tumours

Among all malignant tumours, urinary bladder carcinomas are associated with the highest costs in the German healthcare system. They are the fifth most common malignant tumours among men and the eight most common among women. In the Federal Republic of Germany, the incidence rate of urinary bladder cancer is 48/100,000 among men and 19/100,000 among women. According to recent extrapolations of the Robert Koch Institute in Berlin, the incidence rate in the Federal Republic in 2010 was about 85,000 cases among men and 26,000 cases among women. The average age of both male and female patients is comparatively high, namely in the eighth decade of life. Compared to 1980, the incidence rate in 2014 was significantly higher, amounting to 35% among men and 75% among women. Compared to other countries, Germany was ranking second behind Denmark as regards incidence rates in 2016, exceeding the rates in the U.S. and Asia (Source: Robert Koch Institute Berlin).

About 70-75% of all urinary bladder carcinomas are diagnosed at the superficial stage (referred to as pTa stage). They are characterised by a high tendency towards recurrence and a low tendency towards aggressive growth forms. About 20-25% of all primary diagnoses are made at the so-called invasive stage (referred to as T1-T4 tumour stage), of which about 20% have already spread to remote organs (e.g. liver, lungs, bones).

Possible symptoms

A typical symptom that may suggest the presence of a urinary bladder tumour is what is referred to as painless macrohaematuria. Painless macrohaematuria is defined as the presence of blood in the urine visible to the naked eye without accompanying difficulties urinating. The cause of painless macrohaematuria should always be clarified by means of cystoscopy (see Diagnosis).

The presence of blood in the urine which is not visible to the naked eye but can be detected by means of urine analysis (referred to as microhaematuria) can also be caused by a bladder tumour. However, microhaematuria may also be a symptom of numerous other diseases (among them kidney diseases and stones), which is why the diagnosis should always include an examination by a nephrologist.

Other symptoms that may be caused by a bladder tumour include irritative urinary symptoms (e.g. frequent urge to urinate with small amounts of urine, frequent urination at night) or, if the tumour is located near the ureteral orifice to the urinary bladder, flank pain as a result of urinary stasis. Advanced tumours already infiltrating the bladder muscles may additionally cause symptoms by infiltrating the surrounding organs (e.g. irregular stool) or remote organs (e.g. pain in the spinal column caused by bone metastases).
Kidney tumours

Benign kidney tumours

The most common benign kidney tumours are oncocytomas and angiomyolipomas. Compared to malignant kidney tumours, they occur relatively rarely.

Malignant kidney tumours

The most common malignant kidney tumour is renal cell carcinoma. Alongside genetic factors, risk factors include smoking, obesity and rare toxins. Renal cell carcinomas are often diagnosed by accident as part of ultrasound or CT examinations on account of other diseases.

The treatment consists in nephron-sparing tumour resection (partial nephrectomy) or kidney removal (nephrectomy), which can be performed as open or laparoscopic procedures. Advanced renal cell carcinomas with metastatic spread can be treated using advanced medicines that inhibit the signal transduction of tumour cells. In very rare cases, malignant kidney tumours occur in childhood, including Wilms’ tumours, renal sarcomas, renal lymphomas and renal metastases.

Further information:

Direct link to diagnosis

Direct link to treatment

Testicles
**Testicles**

The testicles are a pair of organs located in the scrotum. Together with the adjacent epididymides, they are part of the internal reproductive organs.

The testicles have the function of producing male sex hormones (secretion of testosterone) and sperm cells (sperm). The testicle is covered by a tough layer of connective tissue (tunica albuginea). The inside contains small testicular lobules/seminiferous tubules with efferent ducts that connect the rete testis to the epididymis. The seminiferous tubules consist of germinal epithelium that produces precursors of rete testis to the epididymis. The Leydig cells, located between the seminiferous tubules, produce the male sex hormone testosterone. Upon reaching puberty, several million sperm cells are produced per day. These need about two months to mature under the influence of hormones. The sperm cells are stored in the epididymis and are then transported through the vas deferens (ductus deferens) to the seminal vesicles and the prostate. During orgasm, the sperm cells are ejected through the urethra along with a nourishing seminal fluid.

**Reconstructive urology and neurourology.**

**Clinical expertise and research. Closely interlinked.**

While reconstructive urology is dedicated to the treatment of anomalies and the consequences of accidents or preliminary surgeries, neurourology's goal is restoring the function of the urinary bladder in cases of various problems. By using modern surgical procedures that are sometimes very elaborate, scarred constrictions of the urinary passages (strictures) or fistulae (for example, between the urinary bladder and the bowel) can be treated in an effective and long-term manner. The spectrum of reconstructive urology ranges from buccal mucosa graft urethroplasty to the functional muscle transfer on to the urinary bladder (LDDM surgeries for disorders of urination).

A great variety of band systems have been established for the treatment of urinary incontinence in both sexes during recent years. Long years of experience in prosthetic surgery – especially sacral neuromodulation, artificial sphincters or penis prosthetics – allows for therapy options in cases of pronounced symptoms.

Special areas are sex reassignment surgeries and care of patients with transverse injuries. A close interlinking of clinical expertise with research makes it possible to integrate results into the treatment as
quickly as possible. The current emphasis of research in this area is the use of cultivated urothelium (tissue engineering) for urethra reconstruction and the stem cell application for the therapy of the urinary stress incontinence.