

Theodor E. Kocher

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Theodor Kocher was born on August 25, 1841, at Berne (Fig. 1). His father Jacob Alexander was the chief engineer of the Canton Berne and his mother Maria, a descendent of the Moravian Brethren. She passed on to her son a deeply religious philosophy which would help him gain an empathetic understanding of his patients in years to come. He did his school education from Berlin, London, Paris and Vienna. He received his MD from the University of Berne in 1869. That same year he married Marie Witchi-Courant. He had three sons, the eldest of whom, Albert, became a surgeon [1–3].

Kocher visited various European clinics, including the one in Vienna, where he studied under Theodor Billroth. From 1872 to 1886, he was associate professor of surgery to Professor Luche in Berne. In 1872 following Luche's death, Kocher was named Professor of Clinical Surgery at same university. He devoted his medical career to making thyroidectomy a relatively safe procedure by applying new notions of antisepsis. He was the first to excise thyroid for goitre in 1876. In 1883, Kocher announced his discovery of a cretinoid pattern in patients after total excision of the thyroid gland [4]. He further pointed out that hypothyroidism can be traced not only to absence of gland, whether congenital or surgical, but also to goitre, which has caused the gland to stop working. Theodor Kocher won the prestigious Nobel Prize in Medicine in 1909 for his pioneering work on physiology, pathology and surgery of the thyroid gland [1, 4].

By 1912, Kocher had performed 2000 thyroid excisions [1, 2]. The mortality decreased steadily from 14 % in 1884 to 2.4 % in 1889 and 0.18 % in 1898. Kocher himself credited

his success with thyroidectomy operations in part to Lister's method of antisepsis. He said while receiving his Nobel Prize, 'It was because of Lister that one of the most dangerous operations, the removal the thyroid gland, so often appearing urgently necessary because of severe respiratory disturbances, could be performed without substantial danger'.

Kocher's textbook of operative surgery (1892) was published in many editions and languages [5, 6]. He undertook a lot of experimental work on animals and was interested in the physiology of the brain and the spinal cord. He evolved a hydrodynamic theory for the effect of gunshot wounds, and in 1912, attempted to accelerate haemostasis in internal haemorrhage by injecting a sterile coagulating fluid, which had been derived by Anton Fenio (1889) from platelets [7].

Kocher's experimental work on gunshot wounds produced significant contributions to the theory of the explosive effects of missiles, and Kocher with von Schjering produced the most extensive research on the mode of action of small-calibre missiles with high initial velocity. These investigations led to contributions to the journals for Swiss physicians, a lecture to the general session of the International Medical Congress in Rome in April 1874 and two larger works: *Uber Schusswunden* (on gunshot wounds), 1880 and *Die Lehre von den Schusswunden durch Kleinkalibergeschosse* (theory of gunshot wounds due to projectiles of small calibre), 1895 [3].

Some of Kocher's surgical contributions [7–9] are as follows:

- Kocher's method for reducing dislocations of shoulder
- Kocher's subcostal incision for cholecystectomy
- Kocher's arched incision for opening the knee joint
- Kocher's transverse neck incision for thyroidectomy
- Kocher's method for fixation of uterus
- Kocher's invagination method for radical operation for inguinal hernia

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Fig. 1 Theodor Kocher (1841–1917) [3]

- Kocher's surgical forceps
- Kocher's reflex –

Contraction of abdominal muscles following moderate compression of the testicle

- Kocher's sign –

Accentuation of lid retraction on staring, in thyrotoxicosis

- Kocher's test for tracheal compression
- Kocher-Debre-Semelaigne Syndrome or Disease

Syndrome of hypothyroidism in infancy or childhood characterised by generalised muscular hypertrophy, myxoedema, short stature and cretinism

- Kocherisation –

Mobilisation of the duodenum

- Kocher's middle thyroid vein
- Kocher-Lorenz elbow fracture

Osteochondral fracture of capitellum

Kocher was an honorary member of several academic and medical societies—German Surgical Society; Honorary Fellow of Royal College of Surgeons, Edinburgh; American Surgical Society; New York Academy of Medicine and College of Physicians, Philadelphia; The Imperial Military Medical Academy, St. Petersburg; Royal Medical Society of Vienna; and Medical Society of Finland. He was a corresponding member of the Surgical Society of Paris and of the Surgical Society of Medical and Natural Sciences of Brussels; Belgian Academy of Medicine; and German Society of Neurologists. In 1902, he was the president of the German

Society of Surgeons in Berlin and president of the first International Surgical Congress, 1905, in Brussels [7].

Kocher was unsurpassed in his observance of details in techniques, no one seeing his operations could ever forget his tender care and exquisite gentle touch. Even the minutest detail was so arranged that there was no hastening, no untidiness, no shedding of one drop of blood that could be spared and no loss of time.

The so called 'Kocher Speed' was uniform whether he performed the simplest or the most complex operation, and there is hardly a branch of modern surgery in which he has not left valuable and permanent impressions.

Theodor Kocher died at Berne on July 27, 1917 [1]. American neurosurgeon Harvey Cushing said in his speech at the first International Neurological Congress in 1931,

'From hard work and responsibility, surgeons are prone to burn themselves out comparatively young, but Kocher had been blessed with an imperturbability of spirit, or had cultivated these habits of self-control, which enabled him to bear his professional labours, his years and his honours with equal composure to the very end'.

Kocher's lifelong achievement was based on combination of mental activity, intuition and work ethics. With the establishment of the Kocher Fund, he created a monument for himself in his own lifetime. The Theodor Kocher Institute, Kochergasse, Kocher Park and two Kocher busts revive the memories of Theodor Kocher in the city of Berne even today.

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