



Jürg-Urs BAUMANN (1926, Rothrist, – 2000, Basel, Switzerland)

EPOS Founder (1982)

Baumann best Poster Award (2007)

Jürg-Urs Baumann specialized in Surgery in Basel in 1959, and in Orthopaedics in 1963. He was appointed Professor of Orthopaedics in 1983. After a two-year fellowship with David Sutherland (San Diego) and visits to the Shriners Gait Laboratory in San Francisco and the laboratory at Rancho Los Amigos Hospital in Downey, he returned in 1963 to Basel to lead the Gait Laboratory installed at the Children's Hospital (Kinderspital) by Willy Taillard. Baumann is regarded as a pioneer of Gait Analysis in Europe.

The European Society for Movement Analysis in Adults and Children (ESMAC) honored Baumann with the "Baumann lecture". Reinald Brunner (Basel) was the first lecturer in Rome, 2001.

Contribution to EPOS

Jürg-Urs Baumann was one of the 13 EPOS founders who attended the first meeting at Hôpital Bretonneau, Paris, on the 13th of March 1982. In the famous photo (K Parsch coll.), Baumann appears standing at the bottom left.

From left to right in the rear: Jacques Lefort, Alessandro Dal Monte, José Mesquita Montes, Gabriel Soncini, Miguel Ferrer Torrellos, Predrag Klisić, Damir Pajić, Jørgen Reimers.

In the front: **Jürg-Urs Baumann**, Dietrich Tönnis, John Sharrard, Henri Bensahel, Klaus Parsch.



On the 24th of March 1984, Baumann hosted the third annual EPOS meeting at the Kinderspital, Basel, under John Sharrard's presidency. Of the 31 participants from 15 countries, 28 are present on the photo below (Baumann coll.).

Standing: HH Matthias, J Mesquita Montes, A Diméglio, P Klisić, E Lysell, H Emneus, H Bensahel, J van der Eijken, J Reimers, M Ravaglia, F Grill, K Parsch, L Jani, D Tönnis, J Sharrard, A Kaelin, R Bauer, P Witherow, K Osterman, L Lenzi, S Porat.

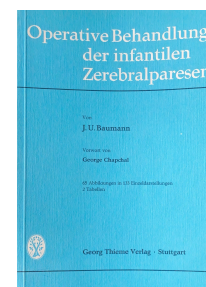


First row, crouched: FM Moore, J Dimitriou, **JU Baumann**, A Dal Monte, G Soncini, P Moll, S Ryöppy.

In 2007, during the 26th EPOS annual meeting in Sorrento, (presidency of Shlomo Wientroub), the awards committee (Ernesto Ippolito, Muharrem Yazici and Fritz Hefti) recommended instituting of the Baumann Best Poster Award to honor the authors of the best poster presented at each EPOS meeting. The first recipients were Pierre Journeau and colleagues (Nancy, France) for: "*Complications of the displaced fractures of the radial neck: 96 cases treated with ESIN*", in Warsaw, 2008.

Contribution to Paediatric Orthopaedics

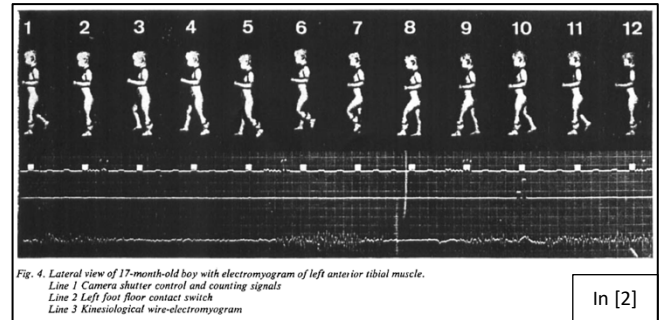
Baumann developed a neuro-orthopaedic unit in Basel and treated many patients with cerebral palsy or myelomeningocele. He published several articles on the correction of deformities of the acetabulum, femur, foot and other deformities due to cerebral palsy, with the notable originality of using gait analysis for follow-up. One of his early works was a book on surgical treatment of limb deformities in cerebral palsy (1970), richly illustrated and considered a reference for orthopaedic practice in German-speaking countries. [Baumann JU. Operative Behandlung der infantilen Zerebralparese, Georg Thieme Verlag ed. Stuttgart. 1970, 104pp.]



In 1968, Baumann acquired an eight-channel Honeywell tape recorder with six channels committed to Kinesiographical Electromyography (KEMG). He studied 72 patients and several normal subjects presented in his "Habilitationsschrift" "Cinephotographische und elektromyographische Ganguntersuchungen" (Cinematographic and Electromyographic Gait Analysis). This work underpinned his scientific activity [1]. Gait analysis was performed on all ambulatory patients before and after surgery. Baumann believed that careful film analysis was essential for surgical decision quality and outcome assessment: "*The cinephotographic pictures make the records easy to understand, a primary requirement for clinical use*". As

cameras improved, he included images from beneath a transparent footplate to illustrate foot movement during stance. At the same time, the electromyography of relevant muscles was recorded.

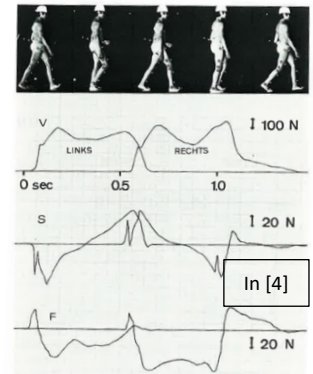
In 1977, Baumann described a practical gait analysis method for daily orthopaedic use using two-dimensional cinematography, two glass platforms to measure six-component floor reaction forces, and EMG transmitted by radiotelemetry. The figure on the right evaluates the left tibialis anterior muscle during walking [2].



In [2]

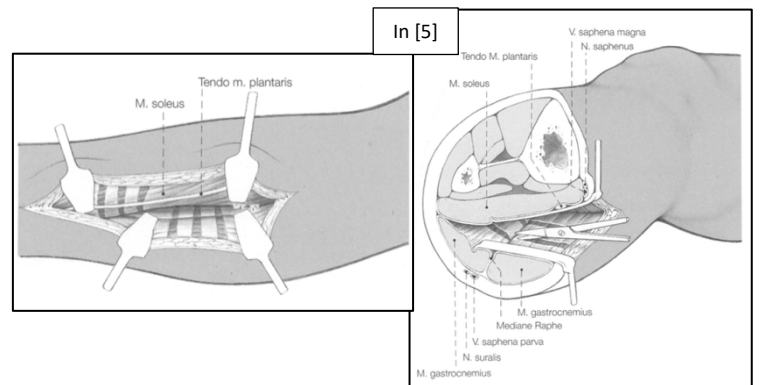
He also studied intramuscular pressure during walking: in two normal men (ages 52 and 55) a catheter implanted in the tibialis anterior showed intramuscular pressure rising to 50 and 107 mmHg during the swing phase and during active contraction against strong resistance respectively, while passive stretch pressure was 35 mmHg without EMG activity [3].

His 1979 article on the results of Dwyer's calcaneal osteotomy in neurological patients stands out because angle measurements were precise and follow-up included gait analysis. The cinematographic assessment allowed measurement of the calcaneal tuberosity angles during the stance and swing phases. The figure on the right shows gait phase images and ground reaction forces of both feet. Baumann reported that *"the lateral shear force on the left foot was reduced by 25% when catching the step and by 50% when pushing off compared with the opposite side"* [4].



In [4]

Baumann's 1989 description of his gastrocnemius and soleus aponeurosis lengthening technique remains current: via a medial approach, multiple transverse and complete aponeurotic incisions are made in the muscle belly while preserving the Achilles tendon. The medial raphe is split, and additional lengthening of the soleus is recommended to avoid adhesions between the two muscles [5].



In 1998, near the end of his career, he and Reinald Brunner presented a tool to assess 3-D angulations of the lower extremities (including femoral and tibial torsions) from a standing X-ray [6].

Hobby

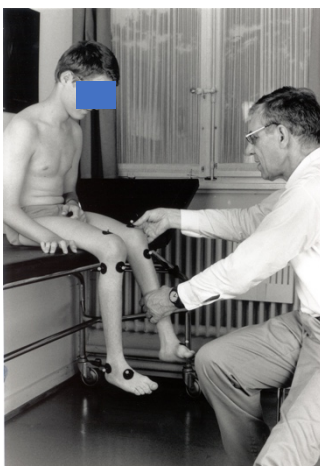
One of his hobbies was skiing.

Legacy

After Baumann's retirement, the high standards of the Gait Lab in Basel were maintained by his successors, both EPOS members: Reinald Brunner and, currently, Elke Viehweger.

References, Top 6

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Coll. R. Brunner



Reinald Brunner and Jürg-Urs Baumann, 1988

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