

# Graduate Schools



## Department of Clinical Anatomy

Professor : Keiichi AKITA

Professor : Akimoto NIMURA (Department of Functional Joint Anatomy)

Associate Professor : Kumiko YAMAGUCHI (Center for Healthcare Education)

Associate Professor : Masayo HARADA

Junior Associate Professor : Satoru MURO

Assistant Professor : Takuya IBARA (Department of Functional Joint Anatomy),  
Toru SASAKI (Department of Functional Joint Anatomy)

Research Technician : Rintaro YAMAMOTO

Staff Assistant : Kurumi KOZEN

Parttime Lecturer : Itsuko OKUDA, Kenro CHIKAZAWA, Sachiyuki TSUKADA, Masahiro TSUTSUMI,  
Masataka NAKAZAWA, Tomoyuki YANO, Shota HOSHIKA,  
Motoki TANAKA, Shigeru OKUHARA (April ~), Izumi SUGIHARA (April ~),  
Chie MORIMOTO (April ~)

Graduate Student : Syuusaku HOSONO, Shouko MOUE, Ryo KARAKAWA (~ March),  
Hidehiko YOSHIMATSU (~ March), Isabella Georgina DJAMEH,  
Yuzuki SUGIYAMA, Tong LIU, Jennifer Edinam DANYO,  
Weiyi WANG (April ~), Nina HIRANO

Research student : Takahiro KASHIYAMA

### (1) Outline

Department of Clinical Anatomy supports clinical medicine through formulation of human anatomical and developmental biological bases of diagnoses and surgical procedures. We handle the whole body in human anatomical researches. We think it is classic but important to represent human morphology for exactly what they are based on meticulous observations of human body structures regardless of diagnostic technics and surgical procedures. Our researches are aimed to share languages among all clinicians based on clinical anatomy by describing the results of observations in an accessible way for clinicians. In addition, we perform analyses using experimental embryological approaches and developmental biological approaches, because we think it is important to consider how human structures are constructed.

### (2) Research

- 1) Clinical anatomic study of the shoulder joint and rotator cuff.
- 2) Clinical anatomic study of the anal region for the rectoanal surgery.
- 3) Cadaveric study of the female pelvis for the gynecologic oncology and colposcopy.
- 4) Analyses of the lamination in the masticatory muscles with special reference of nerve supply.
- 5) Embryological study of the differentiation of cloaca and surrounding muscles.

### (3) Education

Clinical anatomy is generally considered as the practical application of anatomical knowledge to diagnosis and treatment, however we think that this course is a part of pure anatomical science based on the findings of the morphological observations of the human bodies. Main objective of Clinical anatomy in the graduate course is to

make detailed anatomical data to answer the questions developed from clinical fields especially by surgeons and radiologists. We collaborate with many clinicians: ENT, orthopedics, gynecology, thoracic surgery, radiology and so on, and our projects have been broad areas. Students are expected to get fine dissection techniques of human bodies and also learn techniques of histology and embryological experiments. By using these techniques, we study the spatial relationships of organs, vessels nerves, and also try to examine their developmental processes in various projects.

#### (4) Lectures & Courses

Theories and hypotheses of morphogenesis derived from descriptive anatomy and descriptive biology have been confirmed and modified by experimental biology. Furthermore, progresses of developmental biology identified molecules and signaling pathways involved in the morphogenesis. Progresses in the developmental biology also verified morphological hypotheses, and added revisions to the morphological models. The postulates of the morphological models which are currently investigated were built and completed by Anatomy. However, we find Anatomy is still not completed and has many obscure issues through careful dissection of human body. It might be thought that everything was done and there could be no new finding in the human anatomical field anymore because the anatomy employs the classic procedures such as the gross anatomy. However, there are still a lot of unclear anatomical topics, because they had not been focused and not investigated with their clinical significances.

#### (5) Publications

##### [Original Articles]

1. Numasawa M, Nawa N, Yamaguchi K, Akita K, Yamawaki M. Association between grit and depressive symptoms among medical students, moderated by academic performance. *Medical education online*. 2024.07; 29(1); 2373523
2. Shusaku Hosono, Koji Fujita, Akimoto Nimura, Takuya Ibara, Keiichi Akita. Cervical Spine Range of Motion and Sleep Disturbances in Patients With Atopic Dermatitis: A Cross-Sectional Study. *Cureus*. 2024.12; 16(12); e75449
3. Sara Sugiura, Toru Sasaki, Koji Fujita, Toshitaka Yoshii. Treatment for Overgrowth of a Finger Owing to Vascular Malformations: A Case Report. *Cureus*. 2024.11; 16(11); e74716
4. Fukino, K; Iitsuka, M; Kitagawa, N; Tubbs, RS; Akita, K; Iwanaga, J. Three-dimensional Analysis of the Muscles Related to the So-Called "Pterygomandibular Raphe": An Anatomical and Histological Study *DYSPHAGIA*. 2024.08; 39(4); 642-647
5. Masahiro Tsutsumi, Akimoto Nimura, Hajime Utsunomiya, Shintarou Kudo, Keiichi Akita. Capsular attachment on the anterosuperior femoral head-neck junction: A hypothesis about femoroacetabular impingement. *J Anat*. 2024.08; 245(2); 231-239
6. Muro S, Chikazawa K, Delancey JOL, Akita K. Skeletal Muscle Complex Between the Vagina and Anal Canal: Implications for Perineal Laceration. *International urogynecology journal*. 2024.07; 35(12); 2313-2322
7. Masahiro Tsutsumi, Seiya Kanazawa, Akimoto Nimura, Keiichi Akita, Shintarou Kudo. In vivo movement interrelationships among the medial meniscus, joint capsule, and semimembranosus during tibial rotation. *Sci Rep*. 2024.07; 14(1); 17022
8. Toda H, Oshima T, Ibara T, Chin T. Longitudinal Alterations in the Control of Lateral Center of Mass Movement During Walking in a Patient With Unilateral Transtibial Amputation: A Case Study. *Cureus*. 2024.06; 16(6); e61683
9. Fukino, K; Tsutsumi, M; Honda, E; Nimura, A; Iwanaga, J; Akita, K. Contribution of the complex comprising the masticatory fascia, disc, and capsule to temporomandibular joint stabilization: An anatomical study *ANNALS OF ANATOMY-ANATOMISCHER ANZEIGER*. 2024.06; 254; 152268
10. Yuka Nishimura, Masahiro Tsutsumi, Rintaro Yamamoto, Tohma Sakuraya, Kenji Emura, Takamitsu Arakawa. Morphological differences between the dorsal and palmar septa of the first extensor compartment in relation to the brachioradialis and pronator quadratus. *Annals of Anatomy*. 2024.04; 253; 152228

11. Yuzuki Sugiyama, Satoru Muro, Daisuke Ban, Keiichi Akita. Retroperitoneal fasciae as barriers for nerve and arterial passages connecting the retroperitoneal region to the peritoneal organs. *J Anat.* 2024.03;
12. Muro S, Shoji S, Suriyut J, Akita K. Anatomy of muscle connections in the male urethra and anorectal canal. *BJU international.* 2024.03; 133(6); 752-759
13. Yamada E, Umemoto T, Taguchi T, Onishi I, Yamamoto A, Tsukamoto K, Ibara T, Sasaki T, Kaburagi H, Maejima Y, Sasano T, Ohashi K, Yoshii T, Nimura A, Fujita K. Prevalence of amyloid deposition and cardiac amyloidosis in shoulder disease compared to carpal tunnel syndrome. *JSES international.* 2024.03; 8(2); 349-354
14. Yamamoto A, Yamada E, Ibara T, Nihey F, Inai T, Tsukamoto K, Waki T, Yoshii T, Kobayashi Y, Nakahara K, Fujita K. Using In-Shoe Inertial Measurement Unit Sensors to Understand Daily-Life Gait Characteristics in Patients With Distal Radius Fractures During 6 Months of Recovery: Cross-Sectional Study. *JMIR mHealth and uHealth.* 2024.03; 12; e55178
15. Yuta Tanaka, Toru Sasaki, Shigenori Kawabata, Jun Hashimoto, Hisato Higashikawa, Yuko Hoshino, Kensuke Sekihara, Yoshiaki Adachi, Koji Fujita, Akimoto Nimura, Taishi Watanabe, Yuki Miyano, Saeri Kaminaka, Yusuke Yamamoto, Toshitaka Yoshii. Assessing ulnar neuropathy at the elbow using magnetoneurography. *Clin Neurophysiol.* 2024.03; 161; 180-187
16. Chikazawa K, Muro S, Yamaguchi K, Imai K, Kuwata T, Konno R, Akita K. Denonvilliers' fascia as a potential nerve-course marker for the female urinary bladder. *Gynecologic oncology.* 2024.01; 184; 1-7
17. Muro S, Kim J, Nimura A, Tsukada S, Akita K. Morphometric Analysis of the Tibial Attachment Shape of the Anterior Cruciate Ligament and Its Relationship With the Location of the Anterior Horn of the Lateral Meniscus. *The American journal of sports medicine.* 2024.01; 52(3); 3635465231219978-690
18. Akiko Yamamoto, Koji Fujita, Eriku Yamada, Takuya Ibara, Fumiya Nihey, Takuma Inai, Kazuya Tsukamoto, Yoshiyuki Kobayashi, Kentaro Nakahara, Atsushi Okawa. Gait characteristics in patients with distal radius fracture using an in-shoe inertial measurement system at various gait speeds. *Gait Posture.* 2024.01; 107; 317-323
19. Masahiro Tsutsumi, Akari Saiki, Isao Yamaguchi, Akimoto Nimura, Hajime Utsunomiya, Keiichi Akita, Shintarou Kudo. In vivo interrelationships between the gluteus minimus and hip joint capsule in the hip internal rotation position with flexion. *BMC Musculoskelet Disord.* 2024.01; 25(1); 87

### [Misc]

1. Tharathorn Suwatthanarak, Vitoon Chinswangwatanakul, Asada Methasate, Chainarong Phalanusitthepha, Minoru Tanabe, Keiichi Akita, Thawatchai Akaraviputh. Surgical strategies for challenging common bile duct stones in the endoscopic era: A comprehensive review of current evidence. *World J Gastrointest Endosc.* 2024.06; 16(6); 305-317
2. Akimoto Nimura, Haruhiko Shimura, Shota Hoshika, Atsuhiko Fukai, Keiichi Akita. Elbow anatomy in perspective of joint capsule and surrounding aponeuroses: a narrative review. *JSES Int.* 2024.05; 8(3); 654-660

### [Conference Activities & Talks]

1. Keiichi Akita. Anatomical Insights: Hip Joint Capsule, Ligaments, and Muscular Interactions. 3rd Medacta Orthopaedic Research and Education (M. O. R. E.) Japanese Symposium 2024.10.14 Minato, Tokyo
2. Keiichi Akita. Fostering Effective Anatomy Educators: Developing new ideas based on study of the past. The 21st Congress of the International Federation of Associations of Anatomists (IFAA) Satellite Symposium 2024.09.09 Seoul, Korea
3. Akimoto Nimura, Keiichi Akita. Anatomical Study about Stabilizing Structures in the Trapeziometacarpal Joint. The 21st Congress of the International Federation of Associations of Anatomists (IFAA) 2024.09.08 Gwangju, Korea

4. Satoru Muro, Takuya Ibara, Yuzuki Sugiyama, Akimoto Nimura, Keiichi Akita. Evaluating accuracy in AI-powered serial segmentation for CT, MRI, Visible Human, and histological sections. The 21st Congress of the International Federation Association of Anatomists (IFAA) 2024.09.06 Gwangju, Korea
5. Keiichi Akita, Satoru Muro. Relationship between the layered structure of the musculature of the anal canal and the mechanism of hemorrhoidal fistula formation. The 21st Congress of the International Federation of Associations of Anatomists (IFAA) 2024.09.05 Gwangju, Korea
6. Yuzuki Sugiyama, Satoru Muro, Daisuke Ban, Keiichi Akita. Spatial relationship between the retroperitoneal fasciae on the dorsal side of the pancreas and the nerves. 15th International Symposium of Clinical and Applied Anatomy 2024.06.28 Swansea, United Kingdom
7. Toru Sasaki, Kazuya Tsukamoto, Koji Fujita. Comparison between Outcomes of Carpal Tunnel Release and Opponensplasty for Severe Carpal Tunnel Syndrome. Federation of European Societies for Surgery of the Hand (FESSH 2024) 2024.06.26 Rotterdam, Netherlands
8. Masayo Harada, Georgina Djameh, Tomoko Kitabata, Keiichi Akita. Sequential analyses of the Wolffian duct differentiation in male mice. The 57th Annual Meeting of Japanese Society of Developmental Biologists 2024.06.20 Kyoto, Kyoto
9. Keiichi Akita. The Role of Anatomical Dissection Practices in Japanese Medical and Dental Curriculum. 3rd National Conference of Anatomical Didactics 2024.06.08 Łódź, Poland

**[Awards & Honors]**

1. Top Downloaded Article, Wiley, 2024.03