

The beginning of veterinary surgery education in Türkiye and the historical development of this discipline in Ankara University Faculty of Veterinary Medicine

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ABSTRACT

Research on the history of the fields of science has special meanings and importance in the history of veterinary medicine. Various studies are carried out on this subject, both at the level of scientific articles and at the level of large-scale doctorate. In this article, the beginning of the veterinary surgery field in Türkiye and its historical development in Ankara University Faculty of Veterinary Medicine, which is the oldest faculty, are discussed. The main material of the study was the first-hand archival resources provided by the Rectorate, Dean's Office and Departments of Ankara University. Various books and journals related to the subject were also used. The data obtained were evaluated within the framework of the historical methodology and were written down chronologically. The processes of the modern surgery education, which started with the Prussian Veterinarian Godlewsky in the Ottoman period, continued within the Higher Agricultural Institute and later Ankara University in the post-Republican period, the changes in the structure of the department with the changes in the university laws, the educational status, the academic stages and the number of publications until April 2022 of faculty members have been determined. The data obtained can shed light on the evaluations to be made in this field. As a result, it has been tried to present a well-coordinated source on the history of the field. The inclusion of detailed data on the surgical units of all veterinary faculties in Türkiye would enable the holistic determination of the quality of surgery in veterinary medicine.

Introduction

Military and Civil Veterinary Schools Period: Veterinary medicine education in the Ottoman period started with the Prussian Veterinarian Godlewsky, who was appointed in the establishment of the Military Veterinary School in 1842. Godlewsky reported that the surgical courses, which were very important due to the students' devotion to empirical methods and their religious beliefs, could not be done very well (18). Veterinary classes were included in the Military School, where *serîriyyât* (clinic) courses were given in the 3rd and 4th grades by Dubroca, who was brought from France, and later by Lewis (1858). Since 1873, Hüseyin Hüsnü has taught "*fenn-i cerrâhiyye-i baytarî*" (veterinary surgery science) and Dezutter, who was brought from Belgium in 1884, was given the

responsibility of clinical lessons. Surgery courses at the Military Veterinary School were given by Yusuf Ziya in 1887 under the name of "*ameliyyât-ı cerrâhiyye*" (surgical operations), and Necip Rıza Zobo served as his assistant. The courses named "*emrâz-ı hâriciyye*" (external diseases) and "*ameliyyât-ı cerrâhiyye*" were given by Hayreddin (1895) (6, 23, 27).

In the Civil Veterinary School (1889), the four-year curriculum was prepared taking into account the curriculum of the Alfort Veterinary School, and a veterinarian named Martel was brought from the Alfort Veterinary School for the clinical courses given in the 3rd and 4th grades (6, 14). Yusuf Ziya between 1889 and 1921 and Mehmet Ali between 1889 and 1897 took the courses on "*emrâz-ı hâriciyye ve ameliyyât-ı cerrâhiyye*"

(external diseases and surgical operations). One year after the Civil Veterinary School was established, students began to be sent to Europe (9). Returning from France after completing his specialization, Abdullah was given “*emrâz-ı hâriciyye*” and “*fenn-i nalbandî*” (farrier science) courses, and he continued this duty until 1913. Hayreddin, who was appointed as the assistant of Abdullah, taught “*fenn-i nalbandî*” courses between 1906-1909 (14).

In 1909, 10 veterinarians were sent to Europe for specialization training at the Civil Veterinary School. Salih Zeki (Berker), who is among these veterinarians and received specialization training in the field of surgery at Alfort Veterinary School, returned to his homeland in 1911 and started to teach surgery courses (23, 27). In Higher Veterinary School (1921) which was established with the merging of Military and Civil Veterinary Schools, the “*amelîyyât-ı cerrâhiyye*” courses were given by Mustafa Santur and Yusuf Ziya, and the “*fenn-i vilâde*” (obstetrics) courses, which were presented within the surgery courses, were taught by Salih Zeki (Berker) since 1911 (6, 14). Many books¹ on veterinary surgery were written by these scholars during this period. Dinçer et al. (10) stated that the first copyrighted work that can be accessed from the 19th century is “*İlm-i Emrâz-ı Hâriciyye yâhud Cerrâhiyye*” (Science of External Diseases or Surgery) written by the Civil Veterinary Inspector Mehmed Ali in 1893 and “*Emrâz-ı Cerrâhiyye-i Baytâriyye*” (Veterinary Surgical Diseases) (1902) of Hayreddin for the 20th century.

With the establishment of the Turkish Republic in 1923, it was planned to focus on education among the prominent development plans of the new Türkiye, and veterinarians were sent to Europe for specialization with the principle that veterinary medicine and agriculture are the cornerstones of the country's economy (27). When these veterinarians returned the country, they were appointed as chief assistants at the Higher Veterinary School in Istanbul and started to apply modern clinical and laboratory methods. In this context, M. Tevfik (Başer) was sent to France Alfort Veterinary Faculty for his doctorate education in 1925. After three years of doctorate education, he returned the country and joined the surgical staff of the Higher Veterinary School². Burhanettin (Öktem) started to work as a surgical assistant at the Istanbul Higher Veterinary School in 1933³.

Various research is carried out on the historical development of the departments, which have special meanings and importance in terms of the history of veterinary medicine. Küçükaslan and Yiğit (21) reported the tags of the articles published on this subject in the bibliography they prepared. In this study, it is aimed to contribute to the “history of science fields” archive by considering the beginning of veterinary surgery education in Türkiye and its historical development in Ankara University Faculty of Veterinary Medicine (AUFVM).

Materials and Methods

The material of the study consisted of the original documents in the Archives of Ankara University (AU) Rectorate and AUFVM Dean's Office, as well as the documents and photographs obtained from the Personnel Files and Biography Archive of History of Veterinary Medicine and Deontology Department. Archive files, books, journals and the internet database of the Council of Higher Education (7) were used for the data of academicians' publication numbers. The data obtained were evaluated within the methodology of history and transferred to the text in chronological order. Necessary institutional permissions were obtained to carry out the study.

Results

Higher Agricultural Institute Period: With the establishment of the Higher Agricultural Institute (HAI)⁴ in Ankara in 1933, the Higher Veterinary School in Istanbul was transferred here as a “faculty” with all its staff and equipment and the school in Istanbul was closed (4, 26). “*Serîriyyât-ı Cerrahiye Enstitüsü*” (Institute of Surgery Clinic) was included in the eight “institutes” formed in the veterinary faculty. In the same year, Prof. Max Gebhardt became the director of the Institute, Salih Zeki (Berker) became associate professor⁵, M. Tevfik (Başer) was appointed as the chief of the surgical branch² and Burhanettin (Öktem) was appointed as the surgical assistant³. After the departure of Max Gebhardt, he was replaced by Prof. Ludwig Lutz who was appointed as the Director of the Institute and continued his duty until 1937 (11). Bekir Sıtkı Artun, who completed his doctorate in Germany, was included in the staff of the school in 1934⁶. The courses taught in the field of surgery within the faculty which four years (eight semesters) curriculum was

¹ Mehmed Ali, *İlm-i Emrâz-ı Hâriciyye Yâhud Cerrâhiyye*, 1893; Yusuf Ziya, *Ameliyyât-ı Cerrâhiyye-i Feres*, 1898; Hayreddin Arif, *Emrâz-ı Cerrâhiyye-i Baytâriyye*, 1902; Yusuf Ziya, *Ameliyyât-ı Cerrâhiyye-i Baytâriyye* 1904; Yusuf Ziya, *Fenn-i Eşkâl-i Hâriciyye-i Hayvânât-ı Ehliyye*, 1909; Yusuf Ziya, *Ameliyyât-ı Cerrâhiyye-i Baytâriyye*, 1917; Mustafa Santur, *Emrâz-ı Cerrâhiyye*, 1917; Necip Rıza, *Muhtasar Emrâz-ı Ayniyye-i Baytâriyye*, 1920; Necip Rıza, *Baytarî Emrâz-ı Cerrâhiyye-i Umûmiyye*, 1925; Necip Rıza, *Baytarî Emrâz-ı Cerrâhiyye-i Husûsiyye*, 1925; Salih Zeki, *Fenn-i Vilâde-i Baytari*, 1928; Salih Zeki, *Gebe Hayvanlara Henüz Doğurmuş Olanlara ve Doğan Yavrulara Yapılması Lazım Gelen Tedbirler*, 1928; Salih Zeki, *Ehli Hayvanların Cerrahi Hastalıkları*, 1931; Salih Zeki, *Ehli Hayvanların Cerrahi Hastalıkları*, 1932.

² Personnel File of Prof. M. Tevfik Başer, AUFVM Deanery Archive.

³ Personnel File of Prof. Burhanettin Öktem, AUFVM Biography Archive of Veterinary History and Deontology Department. No: 563.

⁴ Law No. 2291, Ankara HAI Law, No. 2432 Official Gazette dated 20 June 1933.

⁵ Faculty members holding the title of “mudarris” in the Higher Veterinary School were given the title of “associate professor” at HAI without having a doctorate.

⁶ Personnel File of Prof. Bekir Sıtkı Artun, AUFVM Deanery Archive.

organized considering the programs implemented in Germany, and the staff is presented in Table 1 (2, 3, 11).

The first doctoral thesis in surgery was completed by Burhanettin Öktem in 1937 (24) in accordance with the "Doctoral Regulation"⁷ issued at HAI in 1934. Afterward, Hüseyin Erk⁸ in 1946 and Selim Tolkun⁹ in 1947 completed their doctorate in this unit (19, 20, 28). The academic stages and the number of publications of the faculty members working at the HAI Veterinary Faculty Surgery Institute are presented in Table 2.

At HAI, activities of the unit continued with an examination room for small and large animals prepared in accordance with the needs of the field, an x-ray room, a classroom with the capacity of 50 students in which large animal operations are performed, instrument, medicine and sterilization rooms, outbuildings, five study rooms, and forty big animal boxes (22) (Fig. 1, Fig. 2). HAI Veterinary Faculty was affiliated to AU (1946) in 1948¹⁰ which was established with the first University Law¹¹ of the Republic of Türkiye.

Table 1. Courses Taught in the Field of Veterinary Surgery at the Higher Agricultural Institute (1933-1934).

Course Name	Term (4 years / 8 terms)	Lecturer
Clinical Diagnosis of External Diseases	4	Prof. Ludwig Lutz
Eye Diseases		Translator: Bekir Sıtkı Artun
Operation Knowledge	5, 6, 7	Branch Chief Tevfik Başer
Surgical Instruments Knowledge	5	Branch Chief Tevfik Başer
General Surgery	5, 6	Assoc. Prof. Salih Zeki Berker
External Diseases Clinic	5, 6	Prof. Ludwig Lutz Assoc. Prof. Salih Zeki Berker Branch Chief Tevfik Başer
Fariery and Foot Diseases	6, 7	Prof. Ludwig Lutz Translator: Bekir Sıtkı Artun
Special Surgery	7	Assoc. Prof. Salih Zeki Berker
Reproduction Knowledge	7	Assoc. Prof. Salih Zeki Berker



Figure 1. Views from the clinics of the Higher Agricultural Institute Veterinary Faculty (1933).



Figure 2. Views of surgical practices at the Higher Agricultural Institute and Ankara University Faculty of Veterinary Medicine (1930s, 1950s).

⁷ Ankara HAI Doctoral Regulation. No. 2832 Official Gazette dated 18 October 1934.

⁸ Hüseyin Erk's doctoral thesis is the first doctoral thesis written in the field of obstetrics and gynecology in Türkiye (18).

⁹ Selim Tolkun's doctoral thesis is the first doctoral thesis written in the field of radiology in Türkiye (19, 28).

¹⁰ Additional Law to the Universities Law No. 5234, No. 6951 Official Gazette dated 7 July 1948.

¹¹ Law No. 4936 Universities Law, No. 6336 Official Gazette dated 18 June 1946.

Table 2. The Academic Stages and The Number of Publications of The Faculty Members¹² (1933-April 2022).

Name-Surname	Title	Place of Birth/Year	Graduation/Year	Dr.	Assoc. Prof.	Prof.	Number of Publications	Current State
Salih Zeki Berker	Ord. Prof.	Trabzon/1884	Civil Veterinary School/1908	-	1933	1936	26 articles, 13 books and brochures	Retired (1956)
Mehmet Tevfik Başer	Prof.	İzmir/1893	Higher Civil Veterinary School/1920	1926	1937	1941	5 articles, 2 books and brochures	Retired (1958)
Burhanettin Öktem	Prof.	İstanbul/1904	Higher Veterinary School/1927	1937	1943	1947	19 articles, 12 books and brochures	Retired (1974)
Bekir Sıtkı Artun	Prof.	İstanbul/1906	Berlin Veterinary High School/1934	1934	1943	1947	8 articles, 7 books and brochures	Retired (1975)
Hüseyin Erk	Prof.	Kıbrıs/1914	HAI/1937	1946	1950	1958	22 articles, 7 books and brochures	Left (1952) ¹³
Selim Tolkun	Prof.	Bursa/1916	HAI/1939	1947	1953	1968	19 articles, 3 books and brochures	Retired (1975)
Mustafa Temizer	Prof.	Elazığ/1923	AUFVM/1947	1955	1961	1967	29 articles, 7 books and brochures	Left (1971) ¹⁴
Hayrettin Anteplioglu	Prof.	Van/1924	AUFVM /1948	1955	1961	1967	43 articles, 7 books and brochures	Retired (1988)
Kadri Akın Finci	Assoc. Prof.	İstanbul/1931	AUFVM /1957	1961	1968	-	10 articles, 2 books	Left (1973) ¹⁵
Erdoğan Samsar	Prof.	Tokat/1935	AUFVM /1958	1965	1972	1979	18 articles, 2 books and brochures	Retired (2002)
Nail Küçüker	Assoc. Prof.	Amasya/1928	AUFVM /1954	1966	1972	-	4 articles, 1 book	Left (1974) ¹⁶
Mehmet Ali Öztürk Tekeli	Prof.	Ankara/1935	AUFVM /1959	1966	1971	1978	4 articles, 1 book	Retired (1991)
Mehmet Doğan Aslanbey	Prof.	Kütahya/1933	AUFVM /1959	1966	1971	1978	6 articles, 1 book	Retired (2000)
Faruk Akın	Prof.	Bulgaristan/1938	AUFVM /1962	1968	1974	1979	4 articles, 3 books	Retired (2005)
Necdet Güzel	Prof.	İzmir/1944	AUFVM /1967	1975	1981	1988	15 articles, 4 books	Left (1992) ¹⁷
Arkun Candaş	Prof.	Çankırı/1942	AUFVM /1969	1976	1981	1988	14 articles	Retired (2009)
Burhanettin Olcay	Prof.	Afyon/1945	AUFVM /1971	1978	1989	1997	33 articles, 2 books	Retired (2012)
Bahattin Koç	Prof.	Eskişehir/1951	AUFVM /1974	1979	1989	1997	42 articles, 3 books	Retired (2018)
Mehmet Sağlam	Assoc. Prof.	Manisa/1955	AUFVM /1979	1987	2019	-	71 articles, 1 book	Left (2019) ¹⁸
Zeki Alkan	Prof.	Balıkesir/1955	AUFVM /1980	1987	1989	1997	21 articles, 1 book	Retired (2011)
Perran Gökçe	Prof.	Ankara/1962	AUFVM /1984	1989	1995	2001	30 articles	Retired (2006)
Fatma Eser Özgencil	Prof.	Ankara/1961	FUFVM /1985	1991	1999	2004	27 articles	Retired (2008)
Ümit Kaya	Prof.	Ankara/1965	AUFVM /1988	1994	2001	2009	47 articles, 2 books	Working
Hasan Bilgili	Prof.	Ankara/1966	AUFVM /1995	1995	2000	2006	96 articles, 5 book chapters	Retired (2019)
Ali Bumin	Prof.	Kırşehir/1964	AUFVM /1987	1996	2002	2008	50 articles, 7 book chapters	Working
Ömer Beşaltı	Prof.	Urfa/1965	AUFVM /1991	1997	2002	2008	79 articles, 1 book, 2 book chapters	Working
Oytun Okan Şenel	Assoc. Prof.	Ankara/1975	AUFVM /1999	2004	2016	-	39 articles, 3 books, 1 book chapters	Working
İrem Gül Sancak	Assoc. Prof.	Ankara/1975	AUFVM /1999	2010	2015	-	20 articles, 1 book, 4 book chapters	Left (2020) ¹⁹
İrem Ergin	Assoc. Prof.	Ankara/1980	AUFVM /2003	2010	2019	-	40 articles, 1 book, 1 book chapter	Working
Murat Çalışkan	Assoc. Prof.	Samsun/1983	AUFVM /2006	2013	2021	-	32 articles, 1 book	Working

¹² The titles and publication numbers of the academicians who left and retired the faculty were recorded on the basis of the year they left.¹³ Transferred to the AUFVM Obstetrics and Gynecology Department.¹⁴ Transferred to the Elazığ Veterinary Faculty.¹⁵ Transferred to the İstanbul University Faculty of Veterinary Medicine.¹⁶ Transferred to the Çukurova University Faculty of Agriculture.¹⁷ Transferred to the Adnan Menderes University Faculty of Veterinary Medicine.¹⁸ Transferred to the Aksaray University Faculty of Veterinary Medicine.¹⁹ Went to the United States (US).



Figure 3. Surgery instructors with faculty members and students at Ankara University Faculty of Veterinary Medicine (1948, 1950s).

Ankara University Period: After the HAI Faculty of Veterinary Medicine was affiliated to AU, in the Institute of Surgery, which is among the eight institutes; Ord. Prof. Salih Zeki Berker, Prof. Tevfik Başer, Prof. Burhanettin Öktem, Prof. Bekir Sıtkı Artun, Asst. Hüseyin Erk and Asst. Selim Tolkun took charge (12). After the rearrangement of the curriculum of the faculty whose education period was set to five years in 1939, external clinical diagnosis was taught in 4th term, general surgery in 5th and 6th terms, surgical instrument knowledge in 5th term, operation knowledge in 5th, 6th, 7th and 10th terms, foot diseases and horseshoe technique in 6th, 7th and 8th terms, special surgery and obstetrics in 7th and 8th terms, eye diseases in 8th term, and clinical practice from 5th to last term (15). In the Faculty of Veterinary Medicine, the curriculum was reorganized in the 1949-1950 academic year so that the practices of the courses could be carried out in the stud farms in the 10th semester, and in 1955, students were split to practice in four fields (clinics, bacteriology, food control, zootechny) in this regard (14).

At the beginning of 1952, AUFVM switched from the “institute” system to the “kürsü” (department) system²⁰, and within this framework, “*I. Şirürji Kürsüsü ve Kliniği*” (I. Surgery Department and Clinic) and “*II. Şirürji Kürsüsü ve Kliniği*” (II. Surgery Department and Clinic) were established among 18 department²¹ Ord. Prof. Salih Zeki Berker²¹ was brought to the direction of the I. Surgery Department and Clinic and Prof. Burhanettin Öktem, Asst. Selim Tolkun and Asst. Hayrettin Antepioğlu took role in this department (Fig. 3). Prof. M. Tevfik Başer²¹ was brought to the direction of the II. Surgery Department and Clinic and Prof. Bekir

Sıtkı Artun and Asst. Mustafa Temizer took part in this department. The veterinary obstetrics and gynecology field which was within surgery has also been separated from surgery as an independent department²⁰.

Regarding the postgraduate education before the Council of Higher Education, it was reported that 394 people registered for specialization and 39 people registered for doctorate at the AUFVM Animal Breeding and Health Sciences Specialization School (25). Although the doctorate information of six people²² and specialized information of seven people²³ regarding surgery in this school were reached, the exact number could not be determined.

After the Universities Law No. 1750²⁴ came into effect in 1973, the issue of restructuring the departments in AU came to the fore. With the approval of the AU Senate, the two existing surgical departments (I. and II. Surgery Departments) were combined²⁵ as a single department under the name of “Surgery Department and Clinic” and Prof. Burhanettin Öktem was brought into the direction²⁶. In addition to this, an independent “Orthopedics and Anesthesiology Department” was established²⁵ and Prof. Bekir Sıtkı Artun was brought to the direction²⁶.

When looking at the education and examination regulations²⁷ of the faculty in various periods, it is seen that the 10th term is devoted to exercises in the stud farms; practical training were placed in clinical courses and external clinical diagnosis was taught in 4th term for 2 hours/week, general surgery in 5th and 6th terms for 2 hours/week each, special surgery in 7th and 8th terms for 2 hours/week each, eye diseases in 9th term for 1 hour/week, operation knowledge in 6th term for 2 hours/week, 7th term

²⁰ Decision No. 661 dated 15 January 1952 of AU Senate.

²¹ Decision No. 662 dated 15 January 1952 of AU Senate

²² Doctoral theses, AUFVM Deanery Archive. Necdet Güzel 1975, Arkun Candaş 1976, Burhanettin Olcay 1978, Bahattin Koç 1979, Cihat Ersümer 1980, Nuri Yavru 1982.

²³ Master's Theses, AUFVM Deanery Archive. Sedat Kalaycı 1972, Turan Özer 1975, Said İnan 1975, Erdoğan Nayman 1979, Murat Kuloğlu 1979, Fevzi Toprak 1979, Ahmet Uğur 1980.

²⁴ Law No. 1750, No. 14587 Official Gazette dated 7 July 1973.

²⁵ Decision No. 514 dated 30 April 1974 of AU Senate.

²⁶ Decision No. 111 of AUFVM Board dated 9 May 1974.

²⁷ AUFVM Education and Examination Regulations; 1951, 1960, 1968, 1974, 1977.

for 3 hours/week, 8th term for 2 hours/week, foot diseases in 6th and 7th terms for 1 hour/week, orthopedy in 5th and 6th terms for 1 hour/week. In addition, it was determined that practical courses were carried out in Small and Large Animal Clinics, Anesthesiology and Physical Therapy Units, and radiological examinations were carried out in the X-Ray Unit²⁸.

With the organization implemented in the higher education system within the scope of the Higher Education Law²⁹ the “division” system was started. In 1982, “Diseases and Clinical Sciences Division”, which is one of the three divisions, was established³⁰. Under the head of department of Prof. Hayrettin Anteplioglu, the “*Cerrahi Anabilim Dalı*” (Surgery Department) and its subunits, “*Cerrahi Bilim Dalı*” (Surgery Branch) and, “*Travmatoloji ve Ortopedi Bilim Dalı*” (Traumatology and Orthopedics Branch) were established³¹. Within the framework of the “*Principles on Education and Training Plan in Veterinary Faculties*” prepared by the Council of Higher Education in 1982, it was decided that the course hours in veterinary faculties would be 4132 hours³². In this context, 42 hours of theoretic general surgery course in 3rd year, 42 hours of theoretic special surgery and clinic and foot diseases and orthopedics courses each in 4th year, 42 hours of theoretic and 52 hours of practical special surgery and clinic course in 5th year was arranged. In addition, clinical courses, including surgical practices, were arranged as 218 hours in the 4th year and 144 hours in the 5th year. For the implementation of these plans and principles, the 1982-1983 academic year was set aside as the adaptation process. As of the 1983-1984 academic year, this program has been made compulsory to be implemented in all veterinary faculties (26).

“*Minimal Courses and Minimal Hours to be Taught in Veterinary Faculties*” were determined at the meeting held on 28-29 March 1989 of the “*Inter-University Board Veterinary Sciences Education Council*”, which was formed in accordance with the Higher Education Law²⁹ in 1989. It has been approved that the introduction to external diseases course should be given 28 hours to the 3rd graders, 168 hours of the surgery course to the 4th grades, 28 hours of the veterinary orthopedics course to the fifth grades, and

112 hours of the clinical courses including the surgery courses to the 5th grades³³.

The issue of arranging the sub-units of the Surgery Department was brought to the agenda again in 1993, “*in terms of having sufficient faculty members, convenient physical structure, improving clinical services, education and research opportunities*”. In that regard, it was proposed to open four branches within Surgery Department under the names of “Veterinary Radiology, Veterinary Anesthesiology and Reanimation, Veterinary Surgery, and Veterinary Orthopedics and Traumatology”^{34,35}. These branches were structured upon approval by the Higher Education Council³⁶. Prof. Erdoğan Samsar as the Head of Department of Surgery, Prof. Faruk Akın as the Head of Surgery Branch, Prof. Doğan Aslanbey as the Head of Orthopedics and Traumatology Branch, Assoc. Prof. Bahattin Koç as the Head of Anesthesiology and Reanimation Branch and Assoc. Prof. Zeki Alkan as the Head of Radiology Branch has been appointed³⁷. After 13 years, all sub-units of the Surgery Department were abolished in 2006, in line with the proposal to combine small subunits of departments within the framework of European Union Accreditation processes^{38,39,40}. Since this date, the activities of these sub-units have been carried out in the Department of Surgery. With the regulation made in higher education in 2009, the number of divisions was increased to five, and the Department of Surgery took its place as one of the four departments⁴¹ structured within the Division of Clinical Sciences⁴².

The head of the department is Prof. Ali Bumin in AUFVM Surgery Department as of April 2022⁴³(5). In the department, a total of nine faculty member work including three professors, three associate professors and three research assistants. The courses given by these lecturers are presented in Table 3. The academic stages and the number of publications of 30 faculty lecturer working in the field of surgery in the faculty between 1933 and April 2022 are presented in Table 2, with their photos Fig. 4, 5, 6. The academics who make up the academic staff of the unit continue their postgraduate education tasks as well as research and publication activities. In this context, it has

²⁸ Letter 98 dated April 2, 1980 sent to the Dean's Office by the AUFVM Chair of Surgery Department and Clinic.

²⁹ Law No. 2547, No. 17506 Official Gazette dated 6 November 1981.

³⁰ Letter dated 16 August 1982 and numbered 2950 sent to AU Rectorate by the Council of Higher Education.

³¹ AUFVM Dean's Letter dated 6 December 1982 and numbered 10134.

³² Letter dated 18 August 1982 and numbered 220/2960 sent to the Dean of AUFVM by the Council of Higher Education.

³³ Letter 1, dated 7 April 1989, sent to all veterinary faculties by the Inter-University Board Veterinary Sciences Education Council.

³⁴ Letter of AUFVM Head of Division of Diseases and Clinical Sciences dated 6 July 1993 and numbered 74.

³⁵ Decision No. 1257 dated 20 July 1993 of the AU Senate.

³⁶ Letter dated 27 October 1993 and numbered 4384 sent by the Council of Higher Education to the AU Rectorate.

³⁷ AUFVM Deanery Archive, Personnel Files.

³⁸ Decision of AUFVM Faculty Board dated 19 April 2006 and numbered 05.

³⁹ Decision No. 2193 dated 16 May 2006 of the AU Senate.

⁴⁰ Letter dated 7 July 2006 and numbered 2211 sent to the AU Rectorate by the Council of Higher Education.

⁴¹ Surgery, Obstetrics and Gynecology, Reproduction and Artificial Insemination, Internal Diseases.

⁴² Letter dated March 2, 2009 and numbered 880 sent by the Council of Higher Education to the AU Rectorate.

⁴³ Prof. Ali Bumin has been serving as the Head of the Surgery Department since 2019.

been determined that 88 doctoral dissertations and 85 master's theses have been completed in the field of veterinary surgery until April 2022 within the Institute of Health Sciences^{44,45} (8).

Within the Animal Hospital of the Faculty, polyclinic services are provided for surgical diseases of all domestic and wild animals, and clinical applications are carried out on various animal species within the scope of undergraduate, graduate and doctoral programs. In this context, routine applications for diagnosis and treatment

are carried out in Radiodiagnostic (Digital X-ray, Ultrasonography, Doppler Ultrasonography, Echocardiography, Magnetic Resonance Imaging, Computed Tomography), Endoscopic Examination (arthroscopy, laparoscopy, thoracoscopy, bronchoscopy, cystoscopy, gastroscopy, colonoscopy), Arthroscopic, Laparoscopic and Thoracoscopic Surgery, Neurology-Neurosurgery, Microsurgery, Veterinary Dentistry, Veterinary Ophthalmology, Physiotherapy-Rehabilitation Wildlife and Veterinary Orthopedics Units (5).

Table 3. Courses Taught in the Field of Surgery at Ankara University Faculty of Veterinary Medicine (2021-2022).

Course Name Elective: (E) Compulsory: (C)	Weekly Course Hours				Grade
	Autumn		Spring		
	Theoric	Practical	Theoric	Practical	
Surgery (C)	-	-	4	-	4
Traumatology and Orthopedic Surgery (C)	-	-	1	-	4
Radiology (C)	-	-	1	-	4
Hoof Diseases Horseshoe Technique (C)	-	-	1	-	4
Anesthesiology and Reanimation (C)	-	-	1	-	4
Eye Diseases (C)	-	-	1	-	4
Professional Practice and Clinical Skills Methods (C)*	-	-	-	4	2
Physio-Therapy and Rehabilitation (E)	1	-	-	-	4
Veterinary Neurology Neurosurgery (E)	-	-	1	-	4
Tooth Diseases (E)	1	-	-	-	4

* The course is given in a multidisciplinary manner in the form of a module system.



Figure 4. Salih Zeki Berker, Mehmet Tevfik Başer, Burhanettin Öktem, Bekir Sıtkı Artun, Hüseyin Erk, Selim Tolkun, Mustafa Temizer, Hayrettin Anteplioğlu, Kadri Akın Finci, Erdoğan Samsar.



Figure 5. Nail Küçük, Mehmet Ali Öztürk Tekeli, Mehmet Doğan Aslanbey, Faruk Akın, Necdet Güzel, Arkun Candaş, Burhanettin Olcay, Bahattin Koç, Mehmet Sağlam, Zeki Alkan.



Figure 6. A. Perran Gökçe, F.Eser Özgencil, Ümit Kaya* Hasan Bilgili, Ali Bumin*, Ömer Beşaltı*, Oytun Okan Şenel*, İrem Gül Sancak*, İrem Ergin*, Murat Çalışkan*.

* Current academic staff

⁴⁴ The completion year of the first master's thesis in the field of veterinary surgery at AUFVM is 1992.

⁴⁵ AU Health Sciences Institute Archive.



Figure 7. Ankara University Faculty of Veterinary Medicine Surgery Clinic (1980, 2022).

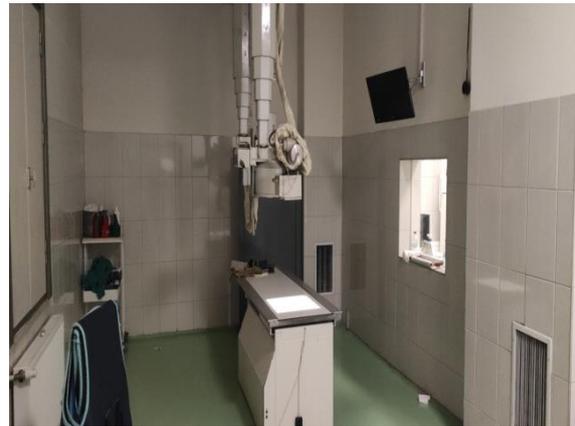


Figure 8. Views from Ankara University Faculty of Veterinary Medicine Surgery Clinic (2022).

There are large and small animal operating rooms and Anesthesiology and Reanimation unit for soft tissue surgery and orthopedic interventions. The operating rooms are equipped with world-class equipment. In these rooms, there are ceiling lighting, anesthesia devices, central gas system, aspirator system, bedside monitors and electrocautery devices. In addition, there are intensive care units and a patient preparation room for cats and dogs. In the department of surgery, there are six examination rooms where patients are routinely examined. In these examination rooms soft tissue, orthopedic, eye, ear and dental diseases are diagnosed and treated. Apart from these, there are neurophysiology laboratory, physiotherapy-rehabilitation unit, electrophysiology, gait analysis unit and radiodiagnostic unit (5) (Fig. 7, Fig. 8).

Discussion and Conclusion

Although the initiation of veterinary medicine education with Godlewsky in 1842 can be accepted as the beginning of education-training practices in the modern sense, it is understood that surgical practices could not be carried out very efficiently. Afterward, the surgery courses in Military and Civilian Schools were first supported by lecturers brought from abroad, and then they were carried out with

the lecturers who were sent to Europe to specialize and included in the School staff when they returned, which shows that an up-to-date education in the field of surgery is being tried.

Regarding taking Alfort Veterinary School as a reference for education, Melikoğlu Gölcü (22) evaluated the transfer of students in both veterinary medicine and other professions mainly to France as an attitude related to the foreign relations of the Ottoman State. The establishment of the first veterinary school in France and the outstanding achievements of Louis Pasteur and his team in the field of microbiology are stated among the reasons for choosing France (22).

Tüzdil (27) stated that the specialists who were sent to Europe for specialization training from the Civil Veterinary School in 1909 and who were recruited when they returned home strengthened the School once again, and stated that the main clinical studies could only be carried out after 1911 when these instructors returned from Europe. It was reported by Öktem (23) that besides these positive developments, there are also some deficiencies. Öktem's (23), memories when he was a student at the Higher Veterinary School regarding the clinical education and training in 1923 explains the

situation of his time: *“There was no clinic building for internal and external diseases and sick animal treatment barns. However, the practice of the polyclinic was administered by the surgeons, internal diseases and pharmacology professors, two days a week, on guard duty. In our school, which was renamed as Yüksek Baytar Mektebi (Higher Veterinary School) when we were students, the courses are taught in a theoretical way; Fenn-i Vilâde (Obstetrics), Emrâz-ı Mevâşî (Ruminant Diseases), Emrâz-ı Dâhiliyye (Internal Diseases) ... were administered by taking notes or giving grades by our lecturers. ... the mobile practice was only possible in Botany and Fenn-i Eşkâl (Morphology) classes, not exceeding 2-3 times a year, while the polyclinic practice was held partially indoors, but rather in the garden in favorable weather.”* When looking at the post-republican period, it is clearly seen how much value is given to education, agriculture and animal husbandry among the development plans of the country. The establishment of HAI, one of the modern education and training facilities in Ankara, the establishment of an academic structure under the institute system, the execution of educational activities under the leadership of German scholars, and the implementation of a modern education at undergraduate and graduate level show that integration has been achieved. As a matter of fact, Erk et al. (16), in their studies on the development of clinical teaching in veterinary medicine, reported that the main developments in the field of veterinary surgery were after the proclamation of the Republic and the scientific level of the surgical field rose during the Republican period. Erk et al. (16), emphasized that as of 1981, when they published their studies, clinical applications, use of x-ray and similar diagnostic tools and all kinds of operation opportunities in veterinary faculties in Türkiye have reached the level of veterinary education institutions in western countries. From these statements, it is seen that veterinary medicine education reached a higher level and gained an institutional structure in the periods after the proclamation of the Republic.

It was determined that the Department of Surgery was divided into four branches in 1993 under the names of Veterinary Radiology, Veterinary Anesthesiology and Reanimation, Veterinary Surgery, Veterinary Orthopedics and Traumatology, and these branches were closed in 2006.^{38,39,40} AUFVM Faculty Board, taking into account the proposal of EAEVE to merge small subunits during accreditation studies, proposed the closure of these units. This proposal was accepted by AU Senate and Higher Education Institution^{38,39,40}.

Today, in the AUFVM, it is seen that the compulsory courses (Table 3) given at the undergraduate level in the field of surgery are administered in accordance with the current criteria (17) of the European Association of Establishments for Veterinary Education (EAEVE), which regulates education in Europe. The surgical unit in the faculty is equipped to meet today's EAEVE requirements in terms of equipment and infrastructure, and it strives to improve it (1). It can be considered that this is a parameter that shows the level of surgery education in AUFVM and that education is given at the level of European countries.

In addition to the hundreds of undergraduate and graduate students they have trained, academics of the AUFVM surgery department have contributed to the field by being members of numerous academic juries in the country³⁷. They have undertaken important duties in education, research and publication and in the structuring of the surgical units of other veterinary faculties, as well as in the training of academicians and students who will work in these units⁴⁶. In addition to the scientific research of academicians of the field, the numerical data of postgraduate studies of the last 40 years can shed light to the future evaluations for the field.

As a result, in this article, which deals with the beginning of the veterinary surgery field in Türkiye and its development in AUFVM, a compact resource on the history of the field has been presented. The inclusion of detailed data on the surgical units of all veterinary faculties in Türkiye will enable the holistic determination of the quality of surgery in veterinary medicine.

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Conflict of Interest

The authors declared that there is no conflict of interest.

Author Contributions

NY conceived and planned the study. NY and ÖK designed the study. All authors conducted literature review, archive research and writing the manuscript. All authors contributed to the interpretation of the results. All authors provided critical feedback and helped shape the research, analysis and manuscript.

Data Availability Statement

The data supporting this study's findings are available from the corresponding author upon reasonable request.

⁴⁶ Commission Report dated 4 January 1978 prepared with the Decision of the Faculty Board of AUFVM dated 28 December 1977 and numbered 285.

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