

Perspective

Dental Service in European Airports: An Analysis on Dental Care Provided by Airports Accommodating More than 20 Million Passengers

Edoardo Bianco

Department of Medicine and Surgery, University of Milano Bicocca, Dental Clinic, 20900 Monza, Italy; edoardo.bianco@unimib.it; Tel.: +39-348-7268209

Abstract: Airports are critical global transit points, yet their medical services often overlook emergency dental care—a vital component of comprehensive passenger assistance. This study examines the availability of dental services at 28 European airports accommodating over 20 million passengers annually. Using content analysis of official airport websites, the presence of terms like “dental” and “dentist” was documented. Results reveal that only six airports provide dental services, with Istanbul Airport being the sole facility offering 24/7 emergency care airside. Other airports limit services to landside and operate within standard hours. The lack of widespread dental care in airports highlights a significant gap in passenger health services, with implications for traveler satisfaction, operational efficiency, and overall public health. This analysis underscores the need for broader integration of dental facilities into airport infrastructures to meet the diverse and urgent needs of global travelers and staff.

Keywords: airport; dental services; dental emergency; travel medicine



Academic Editors: Lewis Ting
On Cheung and Michal Roman

Received: 13 February 2025

Revised: 27 March 2025

Accepted: 31 March 2025

Published: 8 April 2025

Citation: Bianco, E. (2025). Dental Service in European Airports: An Analysis on Dental Care Provided by Airports Accommodating More than 20 Million Passengers. *Tourism and Hospitality*, 6(2), 64. <https://doi.org/10.3390/tourhosp6020064>

Copyright: © 2025 by the author. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

Airports are bustling hubs of activity, accommodating millions of passengers daily, each with different needs and potential health concerns. Among the many services provided at airports, one that is often left aside is emergency dental care. The availability of a dental clinic emergency service in airports is not just a convenience; it is a crucial aspect of comprehensive passenger care that can significantly enhance the overall travel experience ensuring passenger possible need for emergency care.

Dental emergencies, such as severe dental pain, fracture or tooth loss due to dental trauma, lost fillings, abscesses, dental barotrauma (barodontalgia), can occur unexpectedly and require immediate attention.

For travelers, particularly those on long-haul flights or layovers, the availability of an airport dental clinic can provide prompt relief, preventing the escalation of pain and discomfort. Immediate access to care can also prevent further complications, which may otherwise disrupt travel plans and result in missed flights or connections or forced change of travel plans.

Any health issue, including dental problems, can significantly worsen the travel experience. By providing emergency dental services, airports can offer an underrated service. This can be particularly beneficial for international travelers who may be in transit for extended periods and have limited access to their regular healthcare providers. The ability to address dental concerns swiftly and efficiently can enhance overall passenger satisfaction.

With well-trained staff proficient in multiple languages, these facilities can minimize communication hurdles, ensuring that travelers receive the necessary care without additional stress. Moreover, the strategic location within airports enables these clinics to cater to a diverse and transient population, offering a safety net for those who might otherwise struggle to find urgent dental services in a foreign country (Ceyhan et al., 2024; Yoo et al., 2022; Cummins & Shubach, 1989).

Access to dental care at airports minimizes disruptions to travel plans, preventing missed flights or costly last-minute changes. A well-equipped dental facility within the airport also contributes to the perception of the destination as a traveler-friendly location, reinforcing its image as a place that prioritizes passenger well-being.

Dental emergencies can impact more than just the individual passenger; they can also disrupt airport and airline operations. For example, a passenger experiencing severe dental pain may be unable to board a flight, leading to delays and complications with seating arrangements. By offering emergency dental services, airports can help mitigate these issues, ensuring smoother operations and minimizing disruptions that affect other travelers and airport staff.

Airports serve a diverse population, including families, business travelers, elderly passengers, and individuals with chronic health conditions. Dental emergencies can affect anyone, regardless of age or background. By providing an emergency dental clinic, airports can cater to the varied needs of their passengers, demonstrating a commitment to inclusive and comprehensive health services. Integrating dental clinics into airport infrastructures can serve as a dual-purpose solution, offering benefits not only to travelers but also to the employees who spend significant portions of their time within the airport premises.

For airport staff, easy access to dental care on-site reduces the need for time-consuming visits to external clinics, helping them manage both routine check-ups and emergency treatments without disrupting their work schedules. This is particularly relevant in a high-pressure, time-sensitive environment like an airport, where employee health and well-being directly influence operational efficiency and service quality. Aircrews can also gain advantage by such an easy access to quality dental care in airports (Yoo et al., 2022; Cummins & Shubach, 1989; Lo et al., 2021; Makino et al., 2002).

While dental services have been extended to other transport hubs, such as train stations or large bus terminals, airports present unique characteristics that justify the focus of this research.

- **Passenger Characteristics and Travel Duration**

Airports handle a significantly higher volume of international and long-haul travelers compared to other transport hubs. Passengers in transit for extended periods have limited access to their usual healthcare providers, making in-airport emergency dental services more critical.

- **Medical and Security Regulations**

Unlike train stations or bus terminals, airports have strict security and customs controls that can make it challenging for passengers to leave and seek external dental care, particularly when they are in the airside area. This creates a unique need for on-site medical and dental services.

- **Barodontalgia and Aviation-Specific Issues**

Dental problems such as barodontalgia (pressure-induced dental pain) are specific to air travel due to cabin pressure changes, affecting both passengers and airline crews. This condition is not commonly associated with other transport hubs, making airports a particularly relevant focus for dental service analysis.

- **Operational and Logistical Impact**

Severe dental pain or emergencies can prevent passengers from boarding flights, causing operational disruptions for airlines and airport authorities. The presence of on-site dental care can help mitigate these issues, ensuring smoother operations.

- **Existing Service Gap**

As demonstrated in this study, most major European airports lack adequate dental services, highlighting a critical gap in passenger healthcare infrastructure. Understanding and addressing this shortfall is essential to improving airport services and passenger well-being.

For these reasons, the study specifically focuses on airports rather than other transport hubs, as the need for dental services in this setting is both distinct and underexplored. By investigating the current availability of dental services at major European airports, this research contributes to a broader discussion on enhancing health services for travelers, airport staff, and airline crews.

2. Materials and Methods

To assess the presence of dental-related services at major European airports, we conducted an online content analysis of the official websites of all European airports that handle more than 20 million passengers annually. The study focused on identifying the occurrence of the words “dental” or “dentist” within the publicly accessible sections of these websites ([Airports Council International, 2024](#); [Port Authority of New Jersey, 2023](#)).

Airports were selected based on the most recent passenger traffic data from official reports, targeting those that accommodate over 20 million passengers annually. A total of 28 European airports met this criterion. The list of airports was obtained from Airports Council International. Annual World Airport Traffic Report 2024 ([Airports Council International, 2024](#)).

For each airport, we navigated the official website’s publicly available sections, including general services, passenger services, and medical or health services. Only English versions of the websites were examined, and they were available in the 100% of the cases. The analysis was conducted between November and December 2024. All of the websites had an English version.

A manual search for the terms “dental”, “dentistry”, and “dentist” was performed using each website’s built-in search function where available, as well as a site search performed on a major search engine searching inside the domain for the selected terms. In the latter case, the website URL that the Author wanted to confine the results to was typed in the search bar followed by a space, and then by the word “dental”, “dentistry”, or “dentist”. Any mention of dental services, dental clinics, or references to dentists was recorded.

The occurrence of the keywords “dental”, “dentistry”, or “dentist” on each website was documented, along with the context in which the terms appeared (e.g., listed under medical services, airport directory). The availability of specific dental facilities or related contact information was also noted where applicable.

This study did not need an Ethical Committee approval.

3. Results

Out of 28 airports, only 6 met the inclusion criteria, stating on their official website the presence of a Dental Clinic or a Dental Emergency Service (Table 1) ([Istanbul Airport, 2024](#); [Frankfurt Airport, 2024](#); [Munich Airport, 2024](#); [Vienna Airport, 2024](#); [Zurich Airport, 2024](#); [Berlin Brandenburg Airport, 2024](#)).

Table 1. European airports that handle more than 20 million passengers annually with dental service landside or airside.

Rank	ICAO Code	Airport Name	IATA Code
2	LTFM	Istanbul Airport	IST
6	EDDF	Frankfurt am Main Airport	FRA
10	EDDM	Munich Airport	MUC
18	LOWW	Vienna International Airport	VIE
19	LSZH	Zurich Airport	ZRH
24	EDDB	Berlin Brandenburg Airport	BER

Three of them (Berlin BER, Frankfurt FRA, and Munich MUC) are in Germany.

Istanbul airport (IST) is the only to provide a dental service in the airside area (the part of an airport used by aircraft for loading and unloading and takeoffs and landings, i.e., the area beyond security checks and passport and customs control in an airport terminal). All of the others provide dental assistance landside (the side of an airport terminal to which the general public has unrestricted access) ([Istanbul Airport, 2024](#)).

Vienna Airport does not specify the opening times of the dental clinic on its official website, but a direct link to the clinic's own website provides this information ([Vienna Airport, 2024](#)). All of the other airports do not offer a 24 h service but operate during standard working hours (Table 2), with the exception of Istanbul Airport, in which a 24/7 service is ensured.

Table 2. Opening times of dental clinics in European airports that handle more than 20 million passengers annually.

Airport Name	Opening Time	Opening Time
Istanbul Airport	24/7	24/7
Frankfurt am Main Airport	Mon–Fri, different hours	Mon–Fri, different hours
Munich Airport	Mon–Fri, different hours	Mon–Fri, different hours
Vienna International Airport	Mon–Thu 9–16	Mon–Thu 9–16
Zurich Airport	Mon–Sat, 07:30–18:30	Mon–Sat, 07:30–18:30
Berlin Brandenburg Airport	Mon–Fri, different hours	Mon–Fri, different hours

With the exception of Istanbul Airport dental practice, the other airports are clearly stating that they offer elective dental treatments other than emergency dental service.

Istanbul Airport does not specify the kind of treatments that they guarantee other than emergency dental assistance ([Zurich Airport, 2024](#)).

Berlin, Munich, Vienna, and Zurich airports have their own website directly accessible from the airport site ([Munich Airport, 2024](#); [Vienna Airport, 2024](#); [Zurich Airport, 2024](#); [Berlin Brandenburg Airport, 2024](#)).

All six selected airport websites feature a search bar on their homepage, allowing users to search for terms within the site. However, only the Istanbul airport website fails to return results for the terms “dental”, “dentistry”, or “dentist” when searched, and the dental service webpage can be found only via research on a major search engine.

4. Discussion

European airports serve as pivotal hubs in global air traffic, facilitating seamless connections between continents and enhancing international mobility. Their extensive networks link major cities worldwide, and they handle a significant share of global passenger and cargo flows, acting as gateways for economic and cultural exchange.

Out of 28 European airports that accommodate more than 20 million passenger during the year 2023, 22 fail to provide dental services landside or airside, or at least this is not stated on their official websites. Among the six airports that provide such service, only Istanbul (IST) guarantees it 24 h per day, 7 days per week.

These data seem to demonstrate that dental service in Europe major airports nowadays is still underdeveloped.

The most frequent cause of dental pain in epidemiological studies is caries sequelae, such as pulpitis (35%) and acute apical periodontitis (31%). These data demonstrate that dental pain is a frequent discomfort experienced by all the ranges of the population (Bianco et al., 2024; Maddalone et al., 2019; Krekmanova et al., 2009; Renton, 2011; Sindet-Pedersen et al., 1985).

In addition to the aforementioned major causes, barodontalgia, quite unknown but not uncommon, is dental pain or discomfort triggered by changes in ambient pressure, typically experienced during activities such as diving, flying, or even mountain climbing. This phenomenon occurs due to the expansion or contraction of trapped air in the dental structures, such as untreated caries, defective restorations, or root canal fillings, in response to pressure variations. Barodontalgia is not a standalone condition but rather a symptom of underlying dental issues, often exacerbated by pressure-related environments. Its prevalence underscores the importance of dental health for individuals engaging in activities with significant atmospheric pressure changes (Zadik, 2010).

The most prevalent etiologic causes for in-flight dental pain were incorrect dental restorations and dental caries without pulp involvement (29.2%), necrotic pulp known as periapical periodontitis (27.8%), vital pulp pathology (13.9%), sequelae of recent dental treatment (11.1%), and barosinusitis (9.7%) (Zadik, 2010; Santiago et al., 2004). Zadik found at least one episode of barodontalgia in 2% to 8% of flight personnel, with a need for rapid intervention in the period between one flight and the next (Zadik, 2009).

In recent times the occurrence of in-flight dental sequelae of pressure changes are relatively low (compared to the previous decades) because of the current pressurization measures taken in airplane cabins, a higher quality dental care rather than the past decades and the improvement of oral health thanks to preventive measures (Santiago et al., 2004; Robichaud & McNally, 2005; Zadik, 2009).

It affects more frequently aircrews and military aircrews rather than passengers (Santiago et al., 2004).

5. Conclusions

The presence of a dental emergency clinic aligns with broader health and safety initiatives within airports. As airports strive to be environments that promote the well-being of travelers, offering a full spectrum of emergency care, including dental services, is a natural extension of these efforts. This can also be part of the airport's broader strategy to handle medical emergencies, ensuring that passengers, airport staff, and aircrews receive the best possible care in all situations.

Dental issues can sometimes escalate to more serious health conditions if left untreated, such as infections that spread to other parts of the body. During the layover or for passengers who are in transit, having access to immediate dental care can prevent the worsening of these conditions, which might otherwise lead to the need for emergency medical interventions or hospitalizations. By addressing dental problems promptly, airports can play a role in preventing severe complications and promoting overall health.

Airports compete globally to attract travelers. Offering unique and comprehensive services can provide a competitive edge. An emergency dental clinic is a value-added

service that can set an airport apart. This can enhance the airport's reputation as a leading travel hub that cares about its passengers' needs.

In conclusion, the establishment of a dental clinic emergency service in airports serving millions of passengers is a possible investment in passenger care, comfort, and safety.

Tourists in transit often face long layovers, unexpected delays, or extended travel times, during which health-related issues, including dental emergencies, can arise. The availability of dental services within airports can significantly improve the travel experience by providing immediate relief from pain or discomfort, allowing tourists to continue their journey without unnecessary distress. Moreover, access to dental care at airports minimizes disruptions to travel plans, preventing missed flights or costly last-minute changes. It addresses the immediate needs of travelers, allowing those with a stopover to save time for tourism or business (Bogicevic et al., 2016; Reighard, 1962).

Unlike dental tourism, which involves intentional travel for planned dental treatments to destinations known for affordable or high-quality dental care, (Mustaffa Jaapar et al., 2017), emergency dental treatment at the airport is an unplanned necessity that can affect any air traveler. Passengers experiencing sudden dental pain or trauma may require immediate care to continue their journey comfortably, without disruptions. Unlike dental tourists, who carefully select clinics and schedule treatments in advance, air travelers in transit often have limited options and time constraints, making the availability of airport dental services crucial for ensuring their well-being and travel continuity.

As airports continue to evolve and expand their services, integrating emergency dental care will be an important step in meeting the comprehensive needs of the global traveling public.

Future studies could explore the potential impact of on-site healthcare facilities, including dental clinics, on employee productivity, retention rates, and workplace morale, shedding light on their broader implications for the tourism and aviation industries. They can also compare the situation in other geographical areas rather than Europe.

Other studies should also aim to assess the prevalence of dental emergencies, identify common cases, and evaluate the effectiveness of existing services to ensure that adequate care is available for passengers, crew members, and airport staff.

6. Limitations

This analysis was limited to the information provided on official airport websites at the time of the study and did not include third-party service providers operating within airport premises. Additionally, variations in website design and language availability could influence the completeness of search results.

This analysis was intentionally limited to the information available on official airport websites, excluding third-party dental service providers operating within or near airport premises. The rationale behind this choice is that departing, arriving, or transiting passengers seeking urgent dental care are most likely to rely on the official airport website for accurate and verified information. Including third-party providers could introduce a risk of misrepresentation, as external clinics might market themselves as "airport dental services" solely for promotional purposes, without necessarily being endorsed by the airport or conveniently located within airport facilities.

By focusing exclusively on officially listed dental services, this study ensures that the findings reflect the real accessibility of dental care as presented to travelers through reliable airport communication channels.

Further studies could be carried out in this direction, focused on the distance between major airports and the closest dental clinic.

I have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Conflicts of Interest: The author declares no conflicts of interest.

References

- Airports Council International. (2024). *Annual world airport traffic report 2024*. Available online: <https://store.aci.aero/product/annual-world-airport-traffic-report-2024/> (accessed on 30 December 2024).
- Berlin Brandenburg Airport. (2024). *Dentist schönberg & partner dental services*. Available online: <https://ber.berlin-airport.de/content/rw/en/cafes-shops-service/sgs-poi/168-zahnarzt-dr-schoenberg-t1.html> (accessed on 30 December 2024).
- Bianco, E., Carini, F., Cioffi, E., Parolini, A., & Porcaro, G. (2024). Oral health in “special-needs” patients: The University of Milano Bicocca dental clinic experience. *European Journal of Musculoskeletal Diseases*, 13(2)(Suppl. S3), S205–S210.
- Bogicevic, V., Yang, W., Cobanoglu, C., Bilgihan, A., & Bujisic, M. (2016). Airport service quality drivers of passenger satisfaction and loyalty: A mixed-methods study. *Tourism Review*, 71(3), 228–242. [CrossRef]
- Ceyhan, M. A., Günhan, D., Gültekin, C., Cömertpay, E., Yıldırım, Y., & Görmeli Kurt, N. (2024). Medical events encountered at a major international airport and health services provided. *Aerospace Medicine & Human Performance*, 95(5), 259. [CrossRef]
- Cummins, R. O., & Shubach, J. (1989). Frequency and types of medical emergencies among commercial air travelers. *JAMA*, 261(9), 1295–1299. [CrossRef] [PubMed]
- Frankfurt Airport. (2024). *Dental health at the airport Kathrin Tolbien*. Available online: <https://www.frankfurt-airport.com/en/locations/z/zahngesundheit-am-flughafen-kathrin-tobien.html> (accessed on 30 December 2024).
- Istanbul Airport. (2024). *Health services*. Available online: <https://www.istairport.com/en/services/discover/health/health-services> (accessed on 30 December 2024).
- Krekmanova, L., Bergius, M., Robertson, A., Sabel, N., Hafström, C., Klingberg, G., & Berggren, U. (2009). Everyday and dental pain experiences in healthy Swedish 8–19 year olds: An epidemiological study. *International Journal of Paediatric Dentistry*, 19(6), 438–447. [CrossRef] [PubMed]
- Lo, C. H., Yu-Feng, S., & Shih-Tien, H. (2021). A comparison of in-flight and ground-based emergency medical events on the clinical demand for outreach medical services at Taoyuan International Airport, Taiwan. *Frontiers in Public Health*, 9, 663108. [CrossRef] [PubMed]
- Maddalone, M., Bianco, E., Nanussi, A., Costa, G., & Baldoni, M. (2019). Treatment of temporomandibular disorders of muscular origin with a silicon oral device (Alifix®): Electromyographic analysis. *Journal of Contemporary Dental Practice*, 20(12), 1367–1374. [PubMed]
- Makino, T., Asano, Y., Takuhiro, K., Koido, Y., Mashiko, K., Yamamoto, Y., Maeda, Y., Shimazaki, C., & Yamashita, K. (2002). International airport and emergency medical care. *Journal of Nippon Medical School*, 69(2), 185–191. [CrossRef] [PubMed]
- Munich Airport. (2024). *Dental practice and lab at Munich Airport*. Available online: <https://www.munich-airport.com/dental-practice-644043> (accessed on 30 December 2024).
- Mustaffa Jaapar, M., Musa, G., Moghavvemi, S., & Saub, R. (2017). Dental tourism: Examining tourist profiles, motivation and satisfaction. *Tourism Management*, 61, 538–552. [CrossRef]
- Port Authority of New Jersey. (2023). *Port authority aviation department’s 2023 annual traffic report*. Available online: https://www.panynj.gov/content/dam/airports/statistics/statistics-general-info/annual-atr/ATR_2023.pdf (accessed on 30 December 2024).
- Reighard, H. L. 1962. Medical services at airports. A study of the need for comprehensive medical programs at large airports. *Archives of Environmental Health*, 5, 344–357. [CrossRef] [PubMed]
- Renton, T. (2011). Dental (odontogenic) pain. *Reviews in Pain*, 5(1), 2–7. [CrossRef] [PubMed]
- Robichaud, R., & McNally, M. E. (2005). Barodontalgia as a differential diagnosis: Symptoms and findings. *Journal of the Canadian Dental Association*, 71, 39–42. [CrossRef] [PubMed]
- Santiago, M. D. M. G., Marquez, A. M. S., & Bullón-Fernández, P. (2004). Incidence of barodontalgias and their relation to oral/dental condition in personnel with responsibility in military flight. *Medicina Oral*, 9(2), 98–105.
- Sindet-Pedersen, S., Petersen, J. K., & Götzsche, P. C. (1985). Incidence of pain conditions in dental practice in a Danish county. *Community Dentistry and Oral Epidemiology*, 13(4), 244–246. [CrossRef] [PubMed]
- Vienna Airport. (2024). *Medical care medical center, dentist & first aid*. Available online: https://www.viennaairport.com/en/passengers/airport/medical_care (accessed on 30 December 2024).
- Yoo, D., Paik, J. H., Lee, W. K., Kang, S., Han, S. B., Kim, J. H., & Lee, Y. J. (2022). Epidemiology and clinical outcomes of emergency medical events at an international airport. *Signa Vitae*, 18(2), 71. [CrossRef]
- Zadik, Y. (2009). Aviation dentistry: Current concepts and practice. *British Dental Journal*, 206, 11–16. [CrossRef]

- Zadik, Y. (2010). Barodontalgia: What have we learned in the past decade? *Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology, and Endodontology*, 109(4), e65–e69. [[CrossRef](#)] [[PubMed](#)]
- Zurich Airport. (2024). *Airport dental services*. Available online: <https://www.flughafen-zuerich.ch/en/passengers/shopping-and-enjoy/services/all-services/airport-dental-services> (accessed on 30 December 2024).

Disclaimer/Publisher’s Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.