

Anesthesia Technology

California

Introduction

This report aims to determine the demand for anesthesia technology jobs in the Inland Empire/Desert Region. Anesthesia technology workers assist licensed anesthesia providers with the administration of anesthesia through the preparation and maintenance of patient equipment and anesthesia delivery systems before, during, and after anesthesia care (Pasadena City College, 2023). Anesthesia technology workers clean, sterilize, disinfect, stock, order, and maintain anesthesia equipment and supplies in various clinical settings, such as operating rooms, emergency rooms, or ambulatory surgery centers.

The United States Bureau of Labor Statistics (BLS) has not identified an anesthesia technology worker occupation in their Standard Occupational Classification (SOC) system; therefore, to better understand the need for anesthesia technology knowledge, skills, and abilities (KSAs), this report analyzes online job advertisements (ads) from employer seeking anesthesia technology workers.

The Taxonomy of Programs (TOP), developed by the California Community Colleges Chancellor's Office, does not contain a TOP code that directly provides anesthesia technology training. Despite this, four community colleges in California provide training associated with this occupation, with only one college providing an American Society of Anesthesia Technologists and Technicians (ASATT) accredited program (ASATT, 2023).

Summary of Findings

Traditional labor market information is not available for anesthesia technology workers. For this reason, online employer job advertisements is the basis of this report's job demand assessment. Online job ads are helpful in understanding KSAs, education requirements, and other employer hiring preferences, the number of job ads does not accurately count job openings. While efforts were made to de-duplicate job ads, employers may list jobs they do not end up filling or use a single ad to hire multiple workers. Therefore, the number of online job ads is not comparable to nor indicative of the number of annual openings for any given occupation. Following is an overview of this report's key findings.

Key Findings:

- Over the past 12 months, 44 anesthesia technology job ads were posted in the Inland Empire/Desert Region. Over this same period, employers across California posted 335 online job ads for anesthesia technology workers.
 - Overall, online job ad salary information reveals that employers in California are willing to pay these positions between \$47,944 and \$94,411 annually, above the \$45,386 annual (\$21.82 hourly) MIT living wage standard.

- Approximately 86% of anesthesia technology job ads were posted with the job title anesthesia technicians (288 job ads).
- Within job ads, approximately 89% of employers sought candidates with a high school diploma or equivalent, and 11% sought candidates with an associate degree.
- Regional community colleges and other regional postsecondary education institutions do not currently provide training programs for anesthesia technology workers.

Job Advertisements

An online job ad search for jobs in anesthesia technology workers was conducted to reveal the employers seeking these workers, including the median job ad duration, earnings information, and in-demand skills. Over the last twelve months, from February 2022 through January 2023, 44 job ads were posted for anesthesia technology workers in the Inland Empire/Desert Region. To ensure the job ad information included in this report is reliable and generalizable, the search was expanded to include all advertisements posted in California over the last 12 months. Over this period, there were 335 job ads posted for anesthesia technology workers in the state.

Exhibit 1 shows the number of job ads posted over the last twelve months in the state and the median posting duration. On average, employers kept online job ads for anesthesia technology workers open for 25 days. The average statewide online job is open for 27 days, indicating that it may be easier for employers to fill anesthesia technology positions than other jobs.

Exhibit 1: Job ads and posting duration, California, February 2022 – January 2023

Position	Job Ads	Median Posting Duration (Days)
Anesthesia Technology Workers	335	25

Source: Lightcast 2023.1

Advertised Salary from Online Job Ads

There were insufficient job ads for anesthesia technology workers posted over the last 12 months in the state to provide reliable advertised salary data, with employers including salary information in less than 5% of job ads. However, salary data was extracted from a handful of employer job advertisements to provide insight into what employers are willing to pay anesthesia technology workers.

- Keck Medicine of USC: \$26.39-\$44.88 hourly (\$54,891-\$93,350 annually)
- St. Agnes Medical Center: \$23.05-\$32.27 hourly (\$47,944-\$67,122 annually)
- Stanford Health: \$41.98 hourly (\$87,318 annually)
- Sutter Health: \$36.31-\$45.39 hourly (\$75,525-\$94,411 annually)
- University of California, Davis: \$26.14-\$37.46 hourly (\$54,371-\$77,917 annually)

Advertised salary ranges indicate that employers are willing to pay anesthesia technology workers between \$23.05 and \$45.39 per hour or \$47,944 and \$94,411 annually, above the \$45,386 annual living wage standard (\$21.82 hourly). Consider the salary information cautiously since only 5% (16 out of 335) of online job ads for this occupation provided salary information.

Job Titles, Employers, Skills, Education, and Work Experience

Exhibit 2 displays the job titles most frequently requested for anesthesia technology worker jobs over the last 12 months in California. Job titles may provide insight into the types of positions held by anesthesia technology workers. The job title most frequently associated with anesthesia technology workers in California over the last 12 months was anesthesia technician.

Exhibit 2: Job titles most frequently requested for anesthesia technology workers, California, February 2022 – January 2023

Job Titles	Job Ads
Anesthesia Technicians	288
Certified Anesthesia Technicians	24
Anesthesia Technologists	9
Anesthesia Assistants	8
<i>All other job titles</i>	6
Total	335

Source: Lightcast 2023.1

Exhibit 3 displays the employers that posted the most job ads for anesthesia technology workers during the last 12 months. Showing employer names provides insight into where students may find employment after completing a program. Stanford Health Care posted the most job ads for anesthesia technology workers over the last 12 months in California.

Exhibit 3: Employers posting the most job ads for anesthesia technology worker jobs, California, February 2022 – January 2023

Top Employers	Jobs Ads
Stanford Health Care	44
Kaiser Permanente	27
Sutter Medical Center	21
Loma Linda University	19
University of California, Los Angeles	19
University of Southern California	15
Saint Agnes Medical Center	12
<i>All other employers</i>	178
Total	335

Source: Lightcast 2023.1

Exhibit 4 lists a sample of specialized and employability skills employers seek when looking for anesthesia technology workers. Specialized skills are occupation-specific skills that employers request for industry or job competency. Employability skills are foundational skills that transcend industries and occupations; this category is often referred to as "soft skills." The skills requested in job ads may be utilized to guide curriculum development.

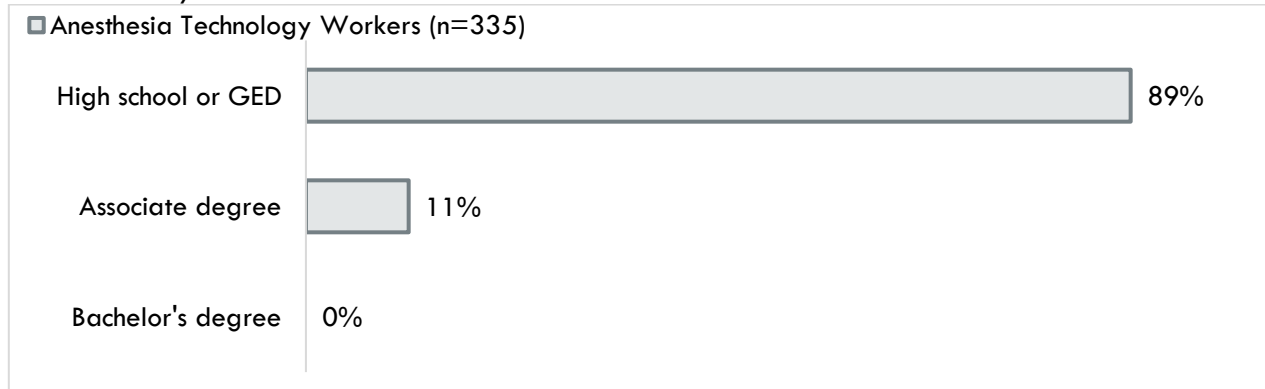
Exhibit 4: Sample of in-demand skills from employer job ads for anesthesia technology workers, California, February 2022 – January 2023

Specialized Skills (n=335)	Employability Skills
<ul style="list-style-type: none"> • Anesthesiology • Sterilization • Surgery • Medical Terminology • Infection Control • Patient Monitoring • Post-Anesthesia Care • Perioperative Care 	<ul style="list-style-type: none"> • Communication Skills • Management • Troubleshooting (Problem-Solving) • Computer Literacy • Fine Motor Skills • Arithmetic • Detail-Oriented • Record Keeping

Source: Lightcast 2023.1

Exhibit 5 displays the minimum advertised education requirements for anesthesia technology workers. Approximately 89% of employers posting job ads for anesthesia technology workers sought candidates with a high school diploma or equivalent.

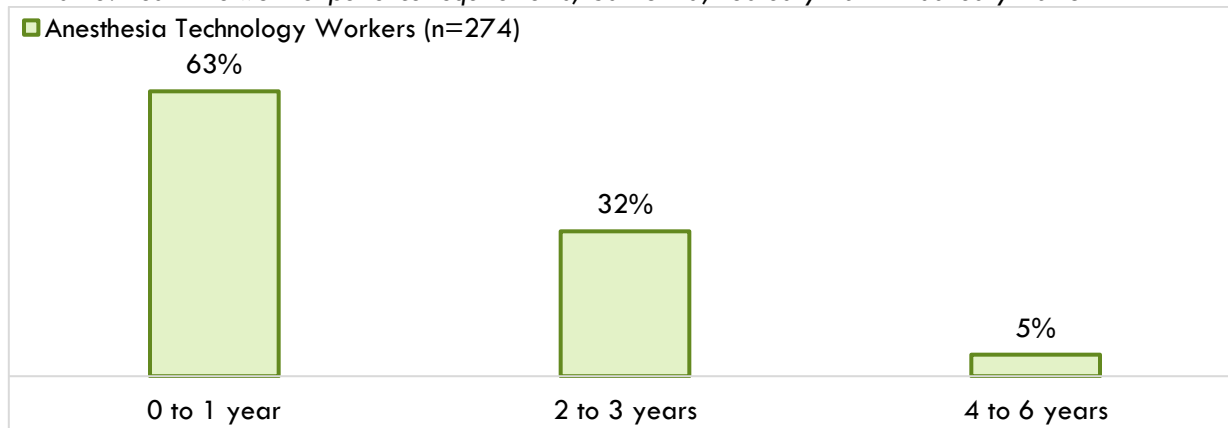
Exhibit 5: Minimum advertised education requirements for anesthesia technology workers, California, February 2022 – January 2023



Source: Lightcast 2023.1

Exhibit 6 displays the real-time work experience requirements from employer job ads. Approximately 18% of employer job ads did not include work experience requirements in job ads for anesthesia technology workers. Nearly two-thirds (63%) of employer job ads with experience requirements sought candidates with zero to one year of previous work experience.

Exhibit 6: Real-time work experience requirements, California, February 2022 – January 2023



Source: Lightcast 2023.1

Certifications

Exhibit 7 displays the most frequently requested certifications by employers in job ads. Nearly three-quarters (71%) of employers sought candidates with a Basic Life Support (BLS) certification from the American Heart Association (AHA), which prepares individuals to recognize emergencies and respond with the necessary care (AHA, 2023). For more information regarding the BLS certification, please visit the AHA website. The Certified

Anesthesia Technologist (Cer. A.T.T) certification, issued by the American Society of Anesthesia Technologists and Technicians (ASATT), was included in approximately 10% of employer job ads. To obtain this certification, individuals must pass the technologist examination after completing an ASATT-accredited training program (ASATT, 2023). For more information regarding the ASATT certification, please visit the ASATT website.

Exhibit 7: Certifications most frequently required by employers, California, February 2022 through January 2023

Certification	Jobs Ads
Basic Life Support (BLS) Certification	238
Certified Anesthesia Technologist (ASATT)	35
Advanced Cardiovascular Life Support (ACLS) Certification	26

Source: Lightcast 2023.1

Training Programs

Regional community colleges do not currently offer programs related to anesthesia technology. Pasadena City College is the only community college in the state currently offering an American Society of Anesthesia Technologists and Technicians (ASATT) accredited program (ASATT, 2023). Over the last three academic years, Pasadena City College has issued an annual average of 20 awards in its anesthesia technology program. Exhibit 8 displays average annual award data for anesthesia technology programs at Pasadena City College. Program completion and student outcome methodologies are found in the appendix.

Exhibit 8. Annual average community college awards for anesthesia technology programs, Pasadena City College, Academic Years 2018-2021

TOP 1201.00 – Health Occupations, General (Local Program Title)	Academic Year 2018-19	Academic Year 2019-20	Academic Year 2020-21	Total CC Annual Average Awards, Academic Years 2018-21
Pasadena City College (Anesthesia Technology)				
Associate Degree	4	10	4	6
Certificate 30 < 60 units	7	14	20	14
Total	11	24	24	20

Source: MIS Data Mart, COCI

The following is the program description for Pasadena City College’s anesthesia technology program, and it may be helpful for program development.

The Anesthesia Technology program prepares the student to be an integral member of the anesthesia patient care team. Emphasis is on fundamental and advanced clinical procedures to assist licensed anesthesia providers in the acquisition, preparation, and application of various types of equipment required for the delivery of anesthesia care. Anesthesia technicians are integral members of the anesthesia patient care team. Their role is to assist licensed anesthesia providers in the acquisition, preparation and application of various

equipment required for the delivery of anesthesia care. This may be performed in a variety of clinical settings such as: the operating room, interventional and diagnostic radiology, post anesthesia care unit, intensive care unit, cardiac cath lab, emergency room, endoscopy, dental suites, and ambulatory surgery centers. Job responsibilities may include equipment maintenance and servicing such as cleaning, sterilizing, assembling, calibrating, testing, troubleshooting, and recording of inspections and maintenance. In addition, the anesthesia technician will assist licensed anesthesia providers with patient assessments, evaluations, transport, positioning, insertion of intravenous and other invasive lines, and airway management.

Upon successful completion of the program, the student is eligible to take the American Society of Anesthesia Technicians/Technologists (ASATT) National Certification Examination to become certified as an Anesthesia Technician (Cer. A.T.T.). Highlights of the PCC program include professional, experienced academic and clinical instructors, and a multitude of clinical sites with state-of-the-art technology and hands-on instruction. The Anesthesia Technician program is a partnership program with Kaiser Permanente (Pasadena City College, 2023a).

Other postsecondary institutions may utilize the anesthesiologist assistant (51.0809) CIP code for their anesthesiologist assistant programs. No other postsecondary education institution issued awards using this program code over the previous three academic years. The following is the program description for anesthesiologist assistant CIP programs.

A program that prepares individuals to assist anesthesiologists and nurse anesthetists in developing and implementing patient anesthesia care plans, including preoperative, surgical theater, recovery room, and postoperative/intensive care procedures. Includes instruction in patient data collection, catheter insertion, airway management and drug administration, assisting the administration and monitoring of regional and peripheral nerve blockades, support therapy, adjusting anesthetic levels during surgery, interoperative monitoring, postoperative procedures, pain clinics and patient education, and administrative tasks (IPEDS, 2023).

Contact

Michael Goss
Paul Vaccher
Centers of Excellence, Inland Empire/Desert Region
michael.goss@chaffey.edu
February 2023

References

American Heart Association (AHA). (2023). CPR & First Aid. *Basic Life Support*. Retrieved from <https://cpr.heart.org/en/cpr-courses-and-kits/healthcare-professional/basic-life-support-blis-training>

American Society of Anesthesia Technologists and Technicians (ASATT). (2023). *Approved Schools*. Retrieved from <https://www.asatt.org/index.php/cerat-ceratt/approved-schools>

American Society of Anesthesia Technologists and Technicians (ASATT). (2023a). *About Certification*. Retrieved from <https://www.asatt.org/index.php/cerat-ceratt/about-certification>

California Community Colleges Chancellor's Office. (2022). *Chancellor's Office Curriculum Inventory (COCI), version 3.0*. Retrieved from <https://coci2.ccctechcenter.org/programs>

California Community Colleges Chancellor's Office Management Information Systems (MIS) Data Mart. (2022). *Data Mart*. Retrieved from <https://datamart.cccco.edu/datamart.aspx>

Carnevale, A. P., Jayasundera, T., & Repnikov, D. (n.d.). *Understanding Online Job Ads Data*. Retrieved from <https://cew.georgetown.edu/wp-content/uploads/2014/11/OCLM.Tech.Web.pdf>

Glasmeyer, A. K. (2022). Massachusetts Institute of Technology. *Living Wage Calculator. Living Wage Calculation for California*. Retrieved from <https://livingwage.mit.edu/states/06>

National Center for O*NET Development. (2022). *O*NET OnLine*. Retrieved from <https://www.onetonline.org/>

National Center for Education Statistics (NCES). *The Classification of Instructional Programs (CIP). (2023). Detail for CIP Code 51.0809*. Retrieved from <https://nces.ed.gov/ipeds/cipcode/cipdetail.aspx?y=55&cipid=87625>

Pasadena City College. (2023). *Career Information*. Retrieved from <https://pasadena.edu/academics/divisions/health-sciences/anesthesia-technology/career-information.php>

Pasadena City College. (2023a). *2022-2023 Academic Catalog. Anesthesia Technology – Associate in Science Degree, Certificate of Achievement*. Retrieved from <https://curriculum.pasadena.edu/academic-programs/anesthesia/anesthesia-technology-as-cert-achievement/>

Appendix: Methodology

Job ad data is limited to the information provided by employers and the ability of artificial intelligence search engines to identify this information. Additionally, preliminary calculations by Georgetown Center on Education and the Workforce found that "just 30 to 40 percent of openings for candidates with some college or an associate degree, and only 40 to 60 percent of openings for high school diploma holders appear online" (Carnevale et al., 2014). Online job ads often do not reveal employers' hiring intentions; it is unknown if employers plan to hire one or multiple workers from a single online job ad or collect resumes for future hiring needs.

Appendix: Job Advertisement Search Parameters

Regional Filter:

- California

Education Filter:

- High school or GED
- Associate degree

Occupation Filter:

- Anesthesiologist Assistants (29-1071.01)

Keyword Filter:

- Anesthesia