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Job Task Analysis Results for ARDMS Abdomen Specialty

March 26, 2008

Analysis Summary For: Abdomen Sonography Exam

Survey Dates:	1/28/2008-2/15/2008	
Invited Respondents:	5,000	
Surveys with Demographics:	1,289	(completed demographics section)
Completed Surveys:	1,140	(completed all responses)
Response Rate, Completed Surveys:	22.8%	

Demographics

Educational Level

Educational Level		
	N	Percent
Decline to state	4	0.3
On-the-job training (apprenticeship)	123	9.5
Formal education certificate program	330	25.6
Formal education Associates degree	393	30.5
Formal education Bachelors degree	329	25.5
Formal education Masters degree	46	3.6
Formal education MD	59	4.6
Formal education PhD	5	0.4
Total	1,289	

Table 1. Education -- All Survey Respondents

Graphically, the educational level of respondents is represented below.

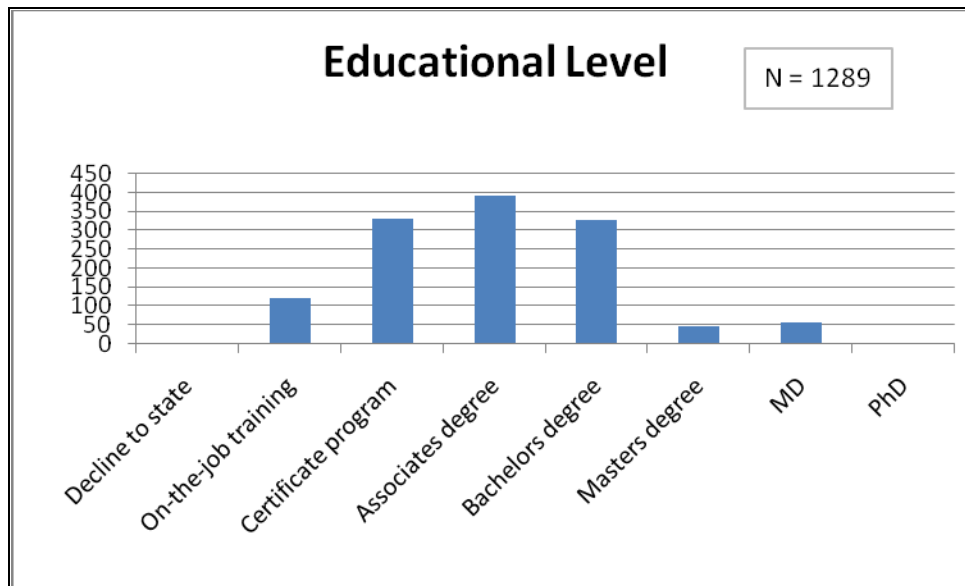


Figure 1. Educational Level

CAAHEP

CAAHEP is the largest programmatic accrediting organization in the health sciences field. In collaboration with its Committees on Accreditation, CAAHEP reviews and accredits nearly 2000 educational programs in nineteen (19) health science occupations. CAAHEP is recognized by the Council for Higher Education Accreditation ([CHEA](#)).

Respondents were asked whether they had graduated from a CAAHEP-approved program.

CAAHEP Graduate		
	N	Percent
Decline to state	23	2%
No	591	46%
Yes	675	52%
Total	1,289	

Table 2. CAAHEP Graduate

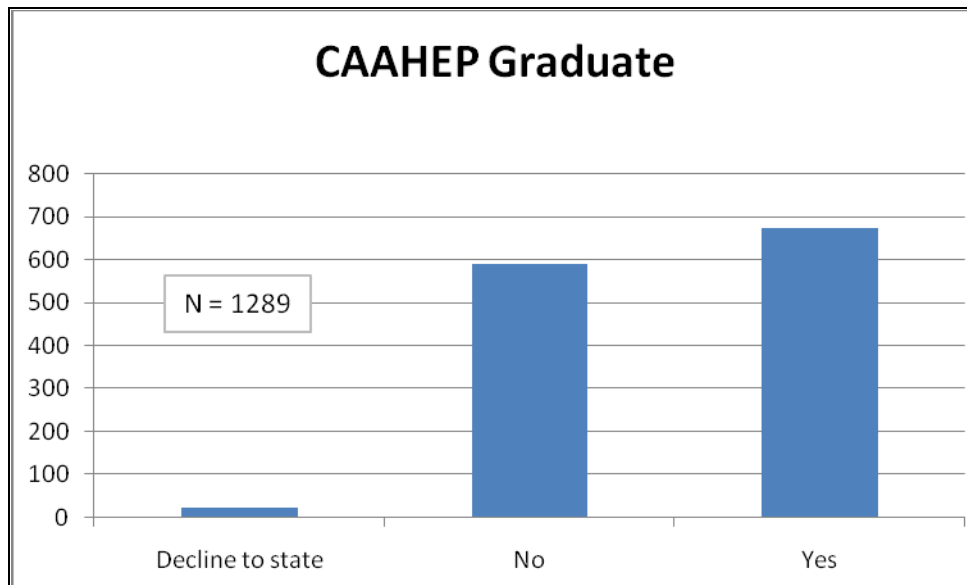


Figure 2. CAAHEP Graduate

Abdominal Exams Performed/Month

Table 3, Abdomen Exams per Month shows the number of exams respondents typically conduct per month in their own practices.

Abdominal Exam /Month	N	Percent
Decline to state	7	0.5
0-50	157	12.2
51-100	258	20.0
101-200	562	43.6
201 or more	305	23.7
Total	1,289	

Table 3. Abdominal Exams/Month

Exams per month are represented graphically below in Figure 3.

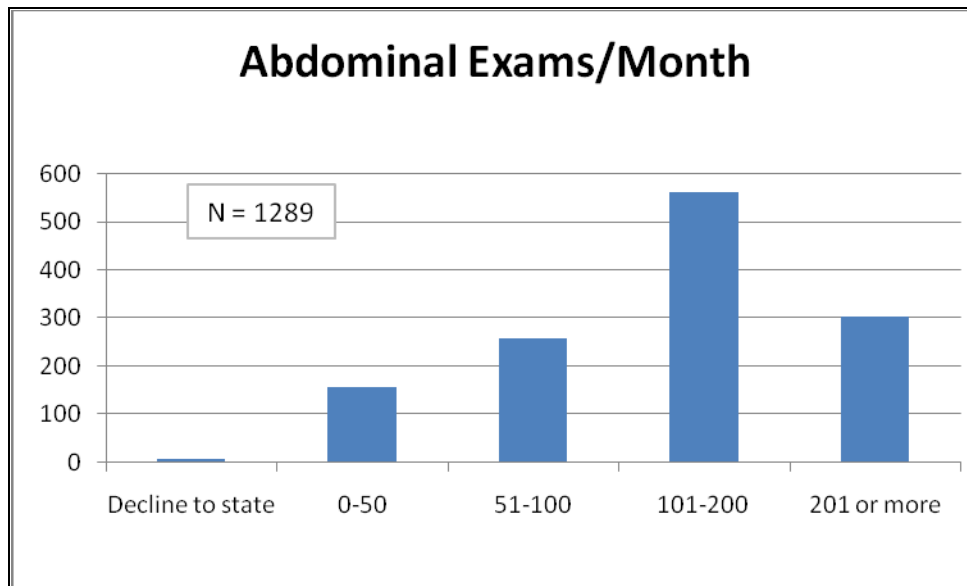


Figure 3. Abdominal Exams/Month

Abdominal Exams Performed in Laboratory/Month

Table 4, Abdomen Exams Performed in Respondent's Laboratory shows the number of abdomen sonography exams conducted in the respondent's laboratory during the previous year.

Abdominal Exams in Lab/ Month		
	N	Percent
Decline to state	10	0.8
0-1000	720	55.9
1001-2000	327	25.4
2001-3000	146	11.3
More than 3000	86	6.7
Total	1,289	

Table 4. Abdominal Exams in Lab/ Month

The results from Table 4. are presented graphically below.

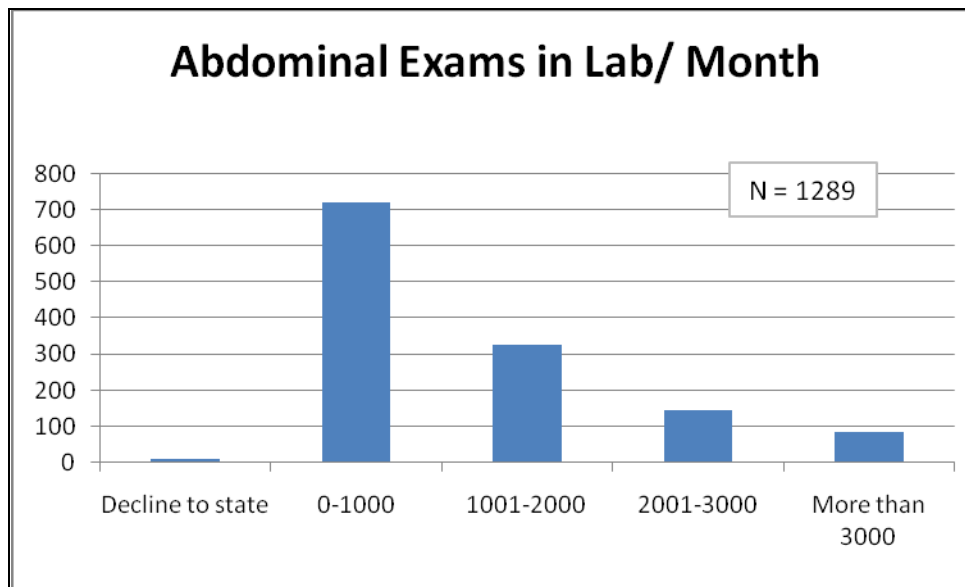


Figure 4. Abdominal Exams in Lab/Month

Years as an Abdominal Sonographer

The number of years the respondents have spent as an Abdominal Sonographer are tabulated in Table 5.

Years as an Abdominal Sonographer		
	N	Percent
Decline to state	5	0.4
0-5	244	18.9
6-10	230	17.8
11-15	249	19.3
16-20	211	16.4
More than 20	350	27.2
Total	1,289	

Table 5. Years as an Abdominal Sonographer

The results from Table 5, Years as an Abdominal Sonographer are depicted graphically below.

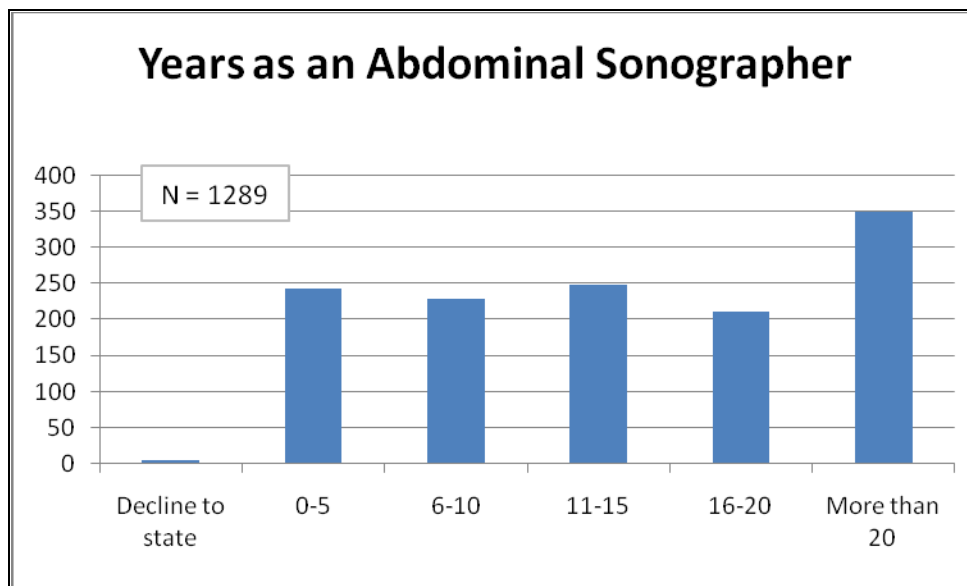


Figure 5. Years as an Abdominal Sonographer

Years in Profession

Table 6, Years in Profession shows the number of years the respondents have been in sonography profession.

Years in Profession		
	N	Percent
Decline to state	1	0.1
0-5	267	20.7
6-10	236	18.3
11-15	236	18.3
16-20	213	16.5
More than 20	336	26.1
Total	1,289	

Table 6. Years in Profession

As is evidenced in Figure 6. Years in Profession, the distribution of practice experience peaks at 20 years, which also happens to be the category with the greatest number of respondents. If this demographic is typical of sonography in general, it means that many practitioners will need to be trained and replaced within the next ten years.

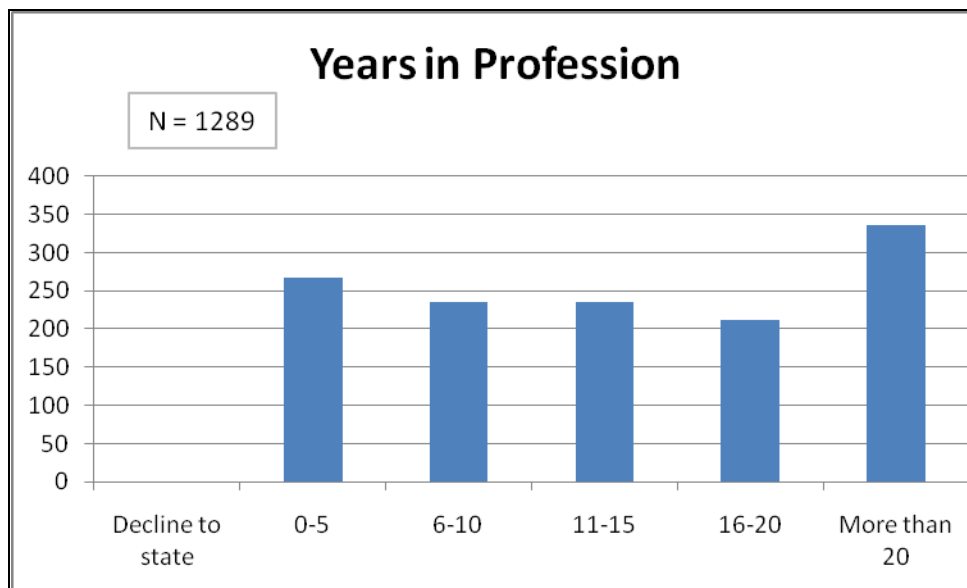


Figure 6. Years in Profession All Respondents

Survey Topics

Below are the complete topic listings as they appeared in the survey.

Topic ID	TEXT
1.	Anatomy and physiology
1.1.	Normal anatomy and physiology
1.1.1.	Identify right and left lobes of the liver
1.1.2.	Identify and understand normal variants in the liver
1.1.3.	Identify common fissures and ligaments in the liver
1.1.4.	Identify gallbladder and biliary tree
1.1.5.	Identify normal variants of the gallbladder
1.1.6.	Identify normal variants of the spleen, including accessory spleen.
1.1.7.	Identify normal layers of abdominal wall including hernia
1.1.8.	Identify normal anatomy of the chest and diaphragm
1.1.9.	Identify and understand normal variants; vessels, muscles, lymph nodes, and parathyroids in the neck
1.1.10.	Identify the normal, regional musculoskeletal anatomy
1.1.11.	Identify the anatomy of the prostate
1.1.12.	Identify the anatomy of the testes
1.1.13.	Identify the gut signature and the histological layers of the gut wall
1.2.	Perfusion and function
1.2.1.	Identify vascular anatomy of the liver
1.2.2.	Identify vascular anatomy of the biliary system
1.2.3.	Identify vascular anatomy of the retroperitoneum
1.2.4.	Identify aorta and it's branches
1.2.5.	Identify IVC and confluence
1.2.6.	Identify portal vein and confluence
1.2.7.	Identify rectus abdominis, normal layers of abdominal wall, and vessels
1.2.8.	Identify the parts of the testes, scrotum, epididymis, cord, & its vascular anatomy, variants, & physiology
1.3.	Organ development
1.3.1.	Identify obstructive uropathy
2.	Pathology
2.1.	Congenital anomalies
2.1.1.	Identify polycystic disease
2.2.	Abnormal physiology
2.2.1.	Identify focal and diffuse abnormalities
2.2.2.	Identify benign and malignant masses

Topic ID	TEXT
2.2.3.	Identify simple and complex cysts
2.2.4.	Identify abscesses or areas of localized collections of pus
2.2.7.	Identify hematomas associated with the genitourinary system
2.2.8.	Identify hematomas associated with the adrenal glands
2.2.9.	Identify acute or chronic pancreatitis.
2.2.10.	Identify pancreatic and peripancreatic fluid collections.
2.2.11.	Identify pathology, including aortic aneurysm and adenopathy
2.2.12.	Identify fluid collections in the retroperitoneum
2.2.13.	Identify fluid collections and masses in the chest
2.2.14.	Identify musculoskeletal pathology
2.2.15.	Identify abnormal anatomy of the musculoskeletal system
2.2.16.	Identify gastrointestinal pathology to localize the pathology to the gastrointestinal region
2.3.	Abnormal Perfusion and function
2.3.1.	Evaluate patients with portasystemic shunts (TIPS)
2.4.	Postoperative (surgically corrected) anatomy
2.4.1.	Evaluate pancreatic transplants
2.4.2.	Evaluate the liver for complications related to rejection, vascular thrombosis, bleeds or biliary obstruction
2.4.3.	Evaluate a renal transplant
3.	Patient care
3.1.	Communication
3.1.1.	Identifying the correct patient's name, and indication for the procedure
3.1.2.	Communicate with referring physician
3.1.3.	Communicate with the radiologist
3.2.	Infection control
3.2.1.	Use sterile technique in preparation for a procedure
3.2.2.	Practice universal precautions
4.	Integration of data
4.1.	Incorporate outside data (Clinical assessment, H and P, Lab Values)
4.1.1.	Evaluate the liver based on abnormal lab values
4.1.2.	Evaluate the liver based on clinical history
4.1.3.	Evaluate the gallbladder based on abnormal lab values
4.1.4.	Evaluate the gallbladder based on clinical history
4.1.5.	Evaluate the genitourinary anatomy based on abnormal lab values
4.1.6.	Evaluate the kidneys based on clinical history
4.1.7.	Evaluate the adrenal glands based on abnormal lab values
4.1.8.	Evaluate the adrenal glands based on clinical lab values/findings
4.1.9.	Evaluate the pancreas based on abnormal lab values
4.1.10.	Evaluate the pancreas based on clinical history

Topic ID	TEXT
4.1.11.	Evaluate the retroperitoneum based on clinical history.
4.1.12.	Evaluate the spleen based on abnormal lab values
4.1.13.	Evaluate spleen based on clinical history
4.1.14.	Evaluate great vessels based on clinical history
4.1.15.	Evaluate abdominal wall based on clinical history.
4.1.16.	Evaluate the chest based on clinical history
4.1.17.	Evaluate the thyroid based on abnormal lab values
4.1.18.	Evaluate the thyroid based on clinical history
4.1.19.	Evaluate the neck based on abnormal lab values
4.1.20.	Evaluate the neck based on clinical history
4.1.21.	Evaluate the regional superficial anatomy based on abnormal lab values
4.1.22.	Evaluate the regional superficial area based on clinical history
4.1.23.	Evaluate the testes based on clinical history
4.1.24.	Evaluate the testes based on abnormal lab values
4.1.25.	Evaluate the scrotum based on clinical history
4.1.26.	Evaluate the prostate based on abnormal lab values
4.1.27.	Evaluate the prostate based on clinical history and digital rectal exam
4.1.28.	Use other imaging studies
5.	Protocols
5.1.	Clinical standards and guidelines
5.1.1.	Identify normal and abnormal musculature by palpation and musculature manipulation
5.1.2.	Modify examination based on sonographic findings
5.1.3.	Modify examination based on mental status of the patient.
5.1.4.	Instruct the patient to fast 6-8 hours prior to the study
5.1.5.	Use multiple patient positions and scan planes
5.1.6.	Instruct the patient to take the required medications and follow the gastrointestinal cleansing technique
6.	Physics and instrumentation
6.1.	Imaging instruments
6.1.1.	Use color Doppler
6.1.2.	Use power Doppler
6.1.3.	Use focal zones
6.1.4.	Record images on multi-format camera
6.1.5.	Record images on instant film camera (e.g., Polaroid)
6.1.6.	Record images on video taping system
6.1.7.	Record images on 35mm film
6.1.8.	Record images on optical disk
6.1.9.	Record images on laser printer
6.1.10.	Capture images using a digital imaging system (e.g.PACS)

Topic ID	TEXT
6.1.11.	Use 3D imaging techniques
6.2.	Artifacts
6.2.1.	Assess the performance of ultrasound equipment for the safety of its operation using a test mimicking phantom.
7.	Treatment
7.1.	Interventional procedures
7.1.1.	Obtain consent form, and lab results prior to a procedure
7.1.2.	Assist in a needle biopsy procedure
7.2.	Intraoperative procedures
7.2.1.	Assist in an intraoperative procedure
8.	Other
8.1.	Traumatic injury
8.1.1.	Identify abnormalities related to trauma
8.2.	Managing medical emergencies
8.2.1.	Recognize and respond to medical emergencies
8.3.	New technologies
8.3.1.	Use contrast agents
8.3.2.	Use 4D imaging techniques