

# CORPORATE CAPABILITIES

ARUP Laboratories | 2018



## ARUP LABORATORIES

As a nonprofit, academic institution of the University of Utah and its Department of Pathology, ARUP believes in collaborating, sharing knowledge, and contributing to laboratory science in ways that benefit our clients and their patients.

Our test menu is one of the broadest in the industry, encompassing more than 3,000 tests, including highly specialized and esoteric assays. We offer comprehensive testing in the areas of genetics, molecular oncology, pediatrics, and pain management, among others.

ARUP's clients include many of the nation's university teaching hospitals and children's hospitals, as well as multihospital groups, major commercial laboratories, and group purchasing organizations. We do not compete with our clients for physician office business, choosing instead to support clients' existing test menus by offering highly complex assays and accompanying consultative support so clients can provide exceptional patient care in their local communities.

Offering analytics, consulting, and decision support services, ARUP provides clients with the utilization management tools necessary to prosper in this time of value-based care. Our UM+ program helps clients control utilization, reduce costs, and improve patient care. In addition, ARUP is a worldwide leader in innovative laboratory research and development, led by the efforts of the ARUP Institute for Clinical and Experimental Pathology®.

ARUP's reputation for quality is supported by our ability to meet or exceed the requirements of multiple regulatory and accrediting agencies and organizations. ARUP participates in the CAP laboratory accreditation program and has CLIA certification through the Centers of Medicare and Medicaid Services. In December 2016, ARUP earned accreditation to the ISO 15189:2012 standard under CAP.

We believe in collaborating, sharing knowledge, and contributing to laboratory science in ways that provide the best value for the patient. Together, ARUP and its clients will improve patient care today and in the future.

**patients. answers. results.®**

A laboratory test is more than a number; it is a person, an answer, a diagnosis.®





## one-stop shop

ARUP is a one-stop shop: single location and single test menu lead to standardized test results.

## best turnaround times

ARUP provides some of the best turnaround times available in the industry, due in part to the advanced instrumentation and automated systems used in specimen receiving, tracking, and retrieving.

## custom programs and services

ARUP knows that no two clients are the same. We provide flexible, customized programs and services to meet our clients' needs.

## client support

Our in-depth, hands-on support bridges the gap between initiation, implementation, and maintenance phases of lab stewardship, lab outreach, and performance/process improvement.

## genetic counselors

ARUP was the first reference lab to establish a genetic counselor program. Our genetic counselors save clients money by reviewing every order to determine duplicate or incorrect testing.

## expertise

More than 100 medical directors and consultants are available for consultation and interpretation. ARUP's medical directors are highly respected professionals who participate in care teams at the Huntsman Cancer Hospital and Primary Children's Hospital.

## LIS-to-LIS interface experience

We've built 340 interfaces with links to more than 700 different healthcare institutions.

## research and development

Created in 1996, the ARUP Institute for Clinical and Experimental Pathology seeks to expand the quantity, quality, and utility of laboratory medicine. Since its inception, the institute has developed approximately 620 tests that ARUP now performs in-house. Of these 620 tests, more than 400 were developed by institute scientists, while more than 200 others were improved and validated so that ARUP could perform them in-house rather than continue to refer them out.

Moreover, ARUP scientists have shared their knowledge, experience, and new developments with the scientific community by publishing more than 1,700 original peer-reviewed research publications in leading journals.

# in-house tests developed by the institute

# 620

# improved and validated

# 200

# developed by institute scientists

# 400

# ARUP Institute for Clinical and Experimental Pathology®

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The institute's mission is to be at the forefront of innovative research and development in clinical and experimental laboratory medicine and to continually contribute to the profession.





incoming  
calls  
per day

**1600**

## client services

ARUP's Client Services' representatives provide exceptional customer service in a timely, accurate, and friendly manner. As the client liaison, Client Services handles more than 1,600 incoming calls per day and is staffed 24 hours per day, seven days per week. Clients may call toll free for a wide range of inquiries, including checking test availability and specimen requirements, adding or canceling testing, verifying pricing, and ordering supplies.

Our representatives' knowledge and training, along with the numerous resources available, allow them to answer more than 83 percent of client inquiries without transferring the call to another individual or department.



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ARUP is one of the most automated labs in the United States. Much of our automation is unique, existing nowhere else in the world.

## automation initiative

ARUP is one of the most automated laboratories in the United States. Much of our automation is unique, existing nowhere else in the world, and is the direct result of our outstanding team of engineers, software developers, and managers.

The main automated transport and sorting system has several components:

1. A chain conveyor system that transports tubes from Specimen Processing workstations
2. Interface robotic systems (binders) that read the tube barcodes and transfer the tubes from specimen transport carriers to pucks
3. The main MagneMotion automated transport system
4. Automated camera systems that use optical character recognition technology systems to identify mislabeled specimens
5. Thawing & mixing workcells
6. High-speed automated sorters

Other important automated systems include the ATS storage sorter, storage and retrieval system, and Sort-to-Light for sorting specimens not transported on the main track.

A key aspect of any automation is the use of information technology to optimize performance. ARUP's automation would not be as productive and perform with the intended quality if it were not for the carefully designed and engineered software that integrates separate components into one seamless system.





## logistics and transportation

ARUP is based in Salt Lake City, Utah, a major metropolitan hub with one of the fastest growing airports in the nation. Currently, nine airlines operate approximately 350 daily flights to Salt Lake City International Airport. Shipments arrive continuously, ensuring rapid turnaround times on test results, regardless of where a client's laboratory may be located. Throughout the transportation process, ARUP's Logistics and Transportation Department employs a variety of quality assurance indicators that monitor and assure specimen integrity.

Specimen pickup and transport to ARUP are managed by ARUP's Logistics and Transportation team. A representative from a contract courier in the client's service area will pick up specimens from the client site. In order to optimize specimen integrity, ARUP provides supplies to clients to facilitate proper specimen collection, transfer, and transport. ARUP continuously monitors the shipping regulations of medical specimens established by the International Air Transport Association (IATA) and Department of Transportation (DOT) to remain in compliance.



# ARUP Connect™



When an LIS interface is not an option, ARUP Connect, ARUP's client portal, provides efficient, convenient, and secure management of referral tests with fast turnaround in reporting patient results.



ARUP's online Order Entry, part of our Order Management solution located within ARUP Connect, offers clients tools and test information that help improve the efficiency, accuracy, and simplicity of ordering lab tests via a secure internet connection.



Order Status and Results, also part of our Order Management solution, offers clients the ability to monitor the status of pending orders; view, print, and download new test results; search for patients and view patients' test history; and print or download reports.

## laboratory stewardship (UM+)

A strong laboratory stewardship (UM+) program helps clients control utilization, reduce costs, and improve patient care. UM+ allows our clients to:

- Identify over-, under-, and misuse of individual lab tests.
- Develop and implement test formulary.
- Bring tests in-house to reduce spending.
- Minimize downstream healthcare costs.
- Compare test-ordering patterns via benchmarking.
- Improve patient care by ordering the right test at the right time.
- Change physician test-ordering patterns.





## testing specialties—genetics

ARUP's full-service genetics laboratory menu includes:

- DNA testing, including single-gene analysis, next generation sequencing, and exome sequencing
- Chromosome analysis and cytogenomic microarray on multiple sample types, including blood, prenatal specimens, and products of conception
- Comprehensive test menu for maternal serum screening and NIPT
- Biochemical genetic testing for the diagnosis of inborn errors of metabolism

16 genetic  
counselors  
on staff are  
available for  
consultation



# 350

unique lifetime  
genetic tests

## duplicate genetic testing program

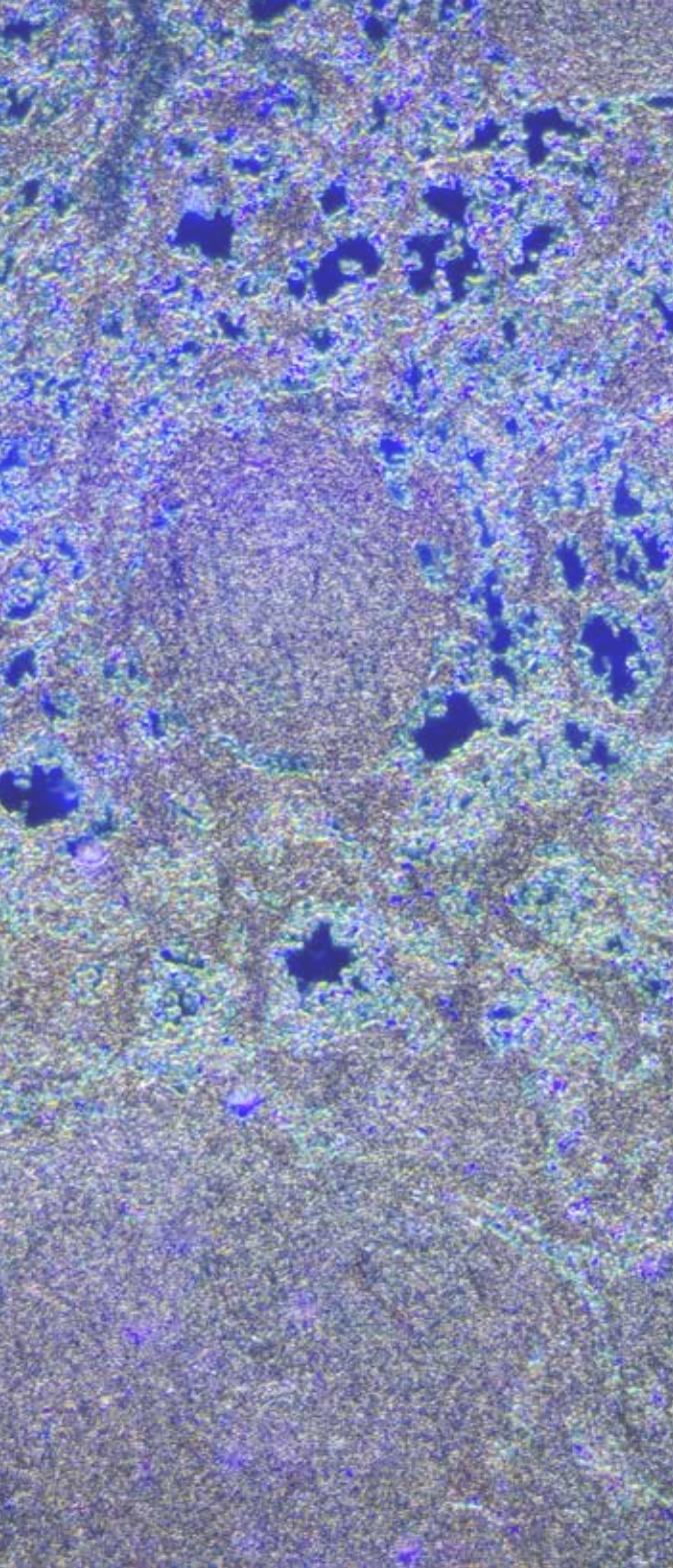
ARUP has identified 350 unique lifetime tests that do not need to be repeated.

Our systems automatically check to see if the test was previously ordered; if so, we contact the client to cancel the test.

This save clients money while reducing unnecessary testing and providing exceptional patient care.



[www.aruplab.com/genetics](http://www.aruplab.com/genetics)



## testing specialties—**anatomic pathology & molecular oncology**

Nearly 50 expert pathologists provide a full range of consultative and diagnostic services, ranging from flow cytometry and molecular diagnostics to surgical pathology.

Subspecialties include breast, genitourinary, gastrointestinal, bone and joint, endocrine, head and neck, soft tissue, kidney, renal, pulmonary, and neuropathology.

Molecular techniques include DNA sequencing, FISH, and PCR.

Molecular testing in lung cancer determines patient eligibility for targeted therapies.

Breast cancer testing includes diagnostic, prognostic and predictive markers, *BRCA1* and *BRCA2* genes, pharmacogenetics, and risk of recurrence testing.

### **Our somatic oncology test menu includes:**

- A 57-gene myeloid malignancy mutation panel utilizing next generation sequencing—available with or without copy number analysis—by cytogenomic microarray to assess single-gene mutations, including substitutions, insertions, and deletions that may have diagnostic, prognostic, or therapeutic significance
- A somatic colon cancer gene panel that detects mutations in *BRAF*, *KRAS*, extended *KRAS*, *NRAS*, and *PIK3CA*
- Epi proColon Septin 9 (*SEP9*) DNA blood-based colorectal cancer screening test
- Prosigna breast cancer prognostic gene signature assay for assessing the risk of distant recurrence in post-menopausal women with stage I or II, hormone receptor-positive, node-negative, or node-positive breast cancer
- A 48-gene solid tumor mutation panel by next generation sequencing that aids in therapeutic decisions



[www.aruplab.com/ap](http://www.aruplab.com/ap)



[www.aruplab.com/oncology](http://www.aruplab.com/oncology)



supporting pain  
management  
through  
excellence in  
drug testing

## testing specialties—**pain management**

ARUP's pain management offerings include drug screen panels and quantitative confirmation.

We offer both meconium and umbilical cord drugs of abuse testing.

Medical director support is available for test selection and results interpretation.

[www.aruplab.com/pain](http://www.aruplab.com/pain)





[www.aruplab.com](http://www.aruplab.com) | [www.arupconsult.com](http://www.arupconsult.com)

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*ARUP is a nonprofit enterprise of the University of Utah  
and its Department of Pathology.*

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