

Welcome to the PHC Webinar Series on “Hot Topics in Transformation”

This lecture on **“Who Wants to Eat Your PHC (Personalized Health Care) Lunch?”**
presented by Jeffrey A. Kant, MD, PhD, FCAP

Your host is Jill Kaufman, PhD.
For comments about this webinar
or suggestions for upcoming
webinars, please contact
Jill Kaufman at jkaufma@cap.org



THE WEBINAR WILL BEGIN MOMENTARILY. ENJOY!

Jeffrey A. Kant, MD, PhD, FCAP

- Professor of Pathology and Human Genetics
- Director of the Division of Molecular Diagnostics at the University of Pittsburgh Medical Center
- Recently-appointed member of Clinical laboratory Improvement Advisory Committee
- Elected Fellow of the American Association for the Advancement of Science
- Instrumental in the formation of the Association for Molecular Pathology (AMP)
- Lectures widely on economic and policy issues relating to molecular diagnostics



Disclaimer

The College does not permit reproduction of any substantial portion of the material in this Webinar without its written authorization. The College hereby authorizes attendees of the CAP Webinar to use the pdf presentation solely for educational purposes within their own institutions. The College prohibits use of the material in the Webinar – and any unauthorized use of the College’s name or logo – in connection with promotional efforts by marketers of laboratory equipment, reagents, materials, or services.

Opinions expressed by the speaker are the speaker’s own and do not necessarily reflect an endorsement by CAP of any organizations, equipment, reagents, materials or services used by participating laboratories.



cap



Who Wants to Eat Your PHC (Personalized Health Care) Lunch?

Jeffrey A. Kant, MD, PhD, FCAP

November 8, 2011





John Sibbick/NHMPL

Disclosures – Jeffrey A. Kant MD PhD

- **Generation Health** - Consulting, Member of Clinical Advisory Board
- **Complete Genomics** – Compensation and stock options, Member, Genomic Medicine Advisory Board
- The nature of this webinar deals with a range of economic ‘players’ interested in the personalized healthcare market/space. Specific individuals and/or vendors are mentioned only as examples within different interested economic groups. Their mention does not imply endorsement of products, services or philosophies by the presenter.

Some Interested Parties in the PHC Space

- Payers
- Reference laboratories (Large and Niche)
- Test Manufacturers: 'On demand' rapid point-of-care tests
- Non-Pathologist MDs (and other healthcare providers)
- Investment community: Boutique (high volume) Laboratories
- Genetic testing benefits management companies
- Consumer-oriented Testing Services
 - Direct
 - Via Physician/healthcare professional intermediary
- Advisory/Educational services
- New payment models: Accountable Care Organizations (ACOs)

Payers



- **CMS National coverage decisions with data collection as a condition of coverage [coverage with evidence development (CED)]**
 - **Pharmacogenomic Testing to Predict Warfarin Responsiveness (August 3, 2009, implemented April 5, 2010): 2C9 and VKORC1 genotyping**
 1. Have not been previously tested for CYP2C9 or VKORC1 alleles; and
 2. Have received fewer than five days of warfarin in the anticoagulation regimen for which the testing is ordered; and
 3. Are enrolled in a prospective, randomized, controlled clinical study when that study meets the following standards.
 - What is the frequency and severity of the following outcomes, compared to subjects whose warfarin therapy management does not include pharmacogenomic testing?
 - Major hemorrhage
 - Minor hemorrhage
 - Thromboembolism related to the primary indication for anticoagulation
 - Other thromboembolic event
 - Mortality
 - 13 additional standards of scientific integrity and relevance



Palmetto GBA
PARTNERS IN EXCELLENCE

- Palmetto GBA is the CMS Medicare Administrative Contractor (MAC) for Jurisdiction 1 (CA, NV, HI, Pacific Islands)
- Draft Local Coverage Decisions (comments by 12/05/11)
 - **DL32288 (Molecular Diagnostic Tests)** : Effective for dates of service 02/27/2012 and forward, Palmetto will consider "non covered" all molecular diagnostic tests (MDTs) that are not explicitly covered by a National Coverage Determination (NCD), a Local Coverage Determination (LCD), or by a coverage article published by Palmetto GBA. Also all tests that
 - 1. Are non-FDA cleared laboratory developed tests (LDTs)
 - 2. Are performed or marketed by a sole source, hospital, or reference laboratory, or
 - 3. Have not received a specific AMA CPT code, or
 - 4. Have not obtained an NCD or LCD coverage determination from Palmetto GBA.
 - **DL32286 (Non-standardized organ or disease-oriented panels)**: Effective 02/27/2012 "non covered" all non-standardized organ or disease-oriented panels that meet the following criteria
 - 1. Are non-FDA cleared laboratory developed tests (LDTs)
 - 2. Are performed or marketed by a sole source, hospital, or reference laboratory
 - 3. Have not received a specific AMA CPT code
 - 4. Have not obtained an NCD or LCD coverage determination from Palmetto GBA
 - 5. Tests that require multiple CPT codes in order to submit a claim for a single assay/test

Reference laboratories (Large and Niche)



Reference laboratories (Large and Niche)

- Advantages from size, menu, capacity and courier capabilities
 - Volume favors favorable cost/result
 - Testing contracts with Health Plans and Genetic Testing Benefits Management companies
 - Need an assay (or group of assays)?; buy a company or lab that offers it
- Exclusive licensing of gene patents
- Approaches may vary depending on the philosophy/publically-traded status of the laboratory, but typically there is an emphasis on 'developing the market'
 - Sales Force visits physicians and other healthcare professionals who might order
 - Test requisitions can favor larger (more expensive) gene panels when individual tests or small panels would suffice
 - 'Tiered' reflex testing may or may not be available when original tests are negative
 - Experience with Myriad Genetics advertising campaigns for BRCA1/2 testing in Atlanta and Denver: CDC reported PCPs ill-prepared to handle a surge in demand for testing
- Have publically favored all molecular tests being placed on the Clinical Laboratory Fee Schedule (CLFS) - no payment for professional interpretation
 - Claim most interpreted by PhD laboratorians
 - Business model – no need to also collect co-payment

Test Manufacturers: 'On demand' rapid point-of-care tests



FDA-waived molecular assays in physician's offices

Xpert HemosIL

The First Fully Integrated, Real-Time PCR for FII G20210A and FV Leiden Genotyping

The Xpert[®] HemosIL FII & FV kit is a qualitative in vitro diagnostic genotyping test for the rapid detection of Factor II (G20210A) and FV Leiden (G1691A) single-point mutations from sodium citrate or EDTA anticoagulated whole blood. Xpert HemosIL FII & FV is distributed exclusively by Werfen Group.

Runs On: GeneXpert[®] System

Self-contained, Fully Integrated, Real-time PCR Offers Efficiency for the Lab and Enhances Service to Physicians and Patients

Simple:

- DNA extraction, amplification and detection in one cartridge
- ■ No specialized personnel or lab facilities required
- Run daily or weekly, with complete thrombophilia panel

Fast:

- ■ FII and FV genotyping in approximately 30 minutes
- ■ No wait-time to obtain complete thrombophilia work-up

Cost-efficient:

- ■ Avoids expensive "send-outs" to reference labs

Technology:

- Each cartridge contains freeze-dried beads with all the necessary components for PCR: DNA polymerase, nucleotides, primers and scorpions
- Scorpions include probes and primers specific for FII and FV normal and mutated DNA
- Each scorpion sequence is labeled with a specific fluorophore
- Through the PCR cycles, the specific binding of the scorpion sequence to the target mutation is detected by the system in real-time

Non-pathologist MDs (and other healthcare providers)



Non-pathologist MDs (and other healthcare providers)

- Non-pathologist Physicians
 - Pathology well-acquainted already in the provision of anatomic pathology services
 - Pod Labs
 - Professional component interpretation of laboratory tests? Why not PHC tests?
 - Likelihood of companies arising to support physicians within other specialties
- PhD Laboratory Directors (“Genomicists’)
 - Following TEFRA (and before, some say), pathologists did not develop many areas in laboratory medicine, including genetics
 - Accredited training programs/Board certification for interested PhDs
 - ABMG (Clinical Molecular Genetics, Cytogenetics, Biochemical Genetics)-ABMS
 - ASHI (Histocompatibility)
 - ABCC (Molecular)
 - AAB (Molecular & Histocompatibility)
 - CLIA requirements for Technical Director in cytogenetics and histocompatibility
 - New molecular pathology CPT codes provide opportunity for PC billing by appropriately qualified PhDs
- Genetic Counselors/Medical Geneticists
 - Knowledge base: 2009 AMA/MEDCO study: 25% MDs had NO genetics exposure, 13% ordered genetic test in last 6 months, 25% would order within next 6 months
 - However, limited numbers of counselors, even moreso medical geneticists

Investment community: Boutique (high volume) Laboratories





PATIENT REPORT

Patient: Doe, Jane
Sex: Female
DOB: 01/01/1950
Medical Record/Patient #: 558677771
Date of Surgery: 1/25/2008
Specimen ID/Block ID: SURG-0001

Requisition: R00003G
Order Received: 2/01/2008
Date Reported: 2/13/2008
Client: Community Medical Center
Treating Physician: Dr. Harry D Smith
Submitting Pathologist: Dr. John P Williams
Additional Recipient: Dr. Sally M Jones

ASSAY DESCRIPTION

Oncotype DX[®] Breast Cancer Assay uses RT-PCR to determine the expression of a panel of 21 genes in tumor tissue. The Recurrence Score[™] is calculated from the gene expression results. The Recurrence Score range is from 0-100.

RESULTS

Recurrence Score = 5

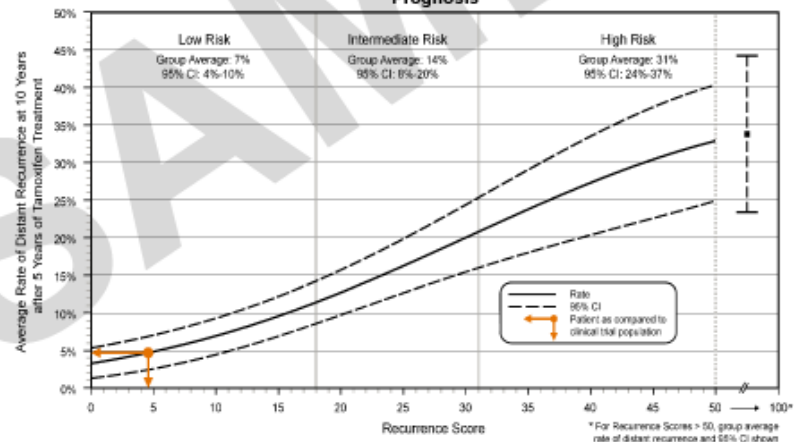
Best Results should be interpreted using the Clinical Experience information contained in this report which is derived from clinical studies involving patient populations with specific clinical features as noted in each section of the Clinical Experience. It is unknown whether the findings summarized in the Clinical Experience are applicable to patients with features different from those described.

CLINICAL EXPERIENCE: PROGNOSIS FOR NODE NEGATIVE, ER-POSITIVE PATIENTS

The Clinical Validation study included female patients with Stage I or II, **Node Negative, ER-Positive** breast cancer treated with 5 years of tamoxifen. Those patients who had a Recurrence Score of 5 had an Average Rate of Distant Recurrence of **5% (95% CI: 2%-7%)**

The following results are from a clinical validation study of 668 patients from the NSABP B-14 study. *N Engl J Med* 2004; 351: 2817-28.

Recurrence Score vs Distant Recurrence in **NODE NEGATIVE, ER-POSITIVE** Breast Cancer Prognosis



Node Negative

- oncotypeDx[®] – 21 genes by quantitative RT-PCR, an ‘expression profile’
- (16 targets, 5 controls)
 - Proliferation (5)
 - Invasion (2)
 - HER2 family (2)
 - Estrogen-related (4)
 - Others (3)
- Recurrence score validated as prognostic marker for ER+/Node(-) patients treated with tamoxifen as well as predictive marker for chemotherapy benefit

Laboratory Director: Patrick Joseph, MD

CLIA Number 05D1018272

This test was developed and its performance characteristics determined by Genomic Health, Inc. The laboratory is regulated under the Clinical Laboratory Improvement Amendments of 1988 (CLIA) as qualified to perform high-complexity clinical testing. This test is used for clinical purposes. It should not be regarded as investigational or for research. These results are adjunctive to the ordering physician's workup.

301 Penobscot Drive Redwood City, CA 94063 (866) ONCOTYPE (866-662-6897) www.oncotypeDX.com
© 2008 Genomic Health, Inc. All rights reserved. Oncotype DX and Recurrence Score are trademarks of Genomic Health, Inc.

GH004 Rev014 8/1/2008

Investment community: Boutique (high volume) Laboratories

- Numerous Other Examples from various Companies
 - Other breast cancer prognostic/predictive assays (e.g. Mammaprint, Genomic Grade Index-GGI, (treat or not)
 - Tumor of Unknown Origin assays (to direct treatment)
 - Allomap – transplant rejection (saves biopsy)
 - Combination Panels of dissimilar markers (e.g. molecular with immunophenotypic)
- Data from multiple targets synthesized via a computational algorithm into a risk score
 - The target of the original FDA IVDMIA draft guidelines
 - Some are FDA-cleared (e.g. Mammaprint, Pathwork TUO assay)
 - Most are performed as laboratory-developed tests
- Physician interpretation not required
- Companies typically work to further expand the indications for testing to other clinical circumstances for the same tumor type or additional cancers
- Pricing typically in the several thousand dollar range
 - Emphasize 'value-based reimbursement,' to date through miscellaneous/unlisted CPT codes
 - AMA CPT Panel Molecular Pathology Workgroup working with laboratory representatives on a way to code these in a granular fashion for payers
- Wyden amendment to Patient Protection and Affordable Care Act: \$100M demonstration project pool to pay for 'advanced diagnostics'

Genetic testing benefits management companies

Generation Health, Inc., a newly formed company focused on genetic testing benefit management, announced the completion of Series A financing from Highland Capital Partners, Correlagen Diagnostics, D2Hawkeye, and executive management. November 21, 2008



[Home](#) » [News](#) » [Pharmacogenomics Reporter](#)

CVS Caremark Takes Majority Stake in Generation Health; GBM CEO to Head CVS PBM

December 23, 2009

"With this additional investment in Generation Health we are accelerating our commitment to personalized medicine and making genomic benefit management an integral part of our PBM offering," Tom Ryan, CEO of CVS Caremark,

[Home](#) » [News](#) » [Pharmacogenomics Reporter](#)

Medco Study Suggests Genetic Testing Improves Patient Compliance with Statins

October 19, 2011

DNA Direct is genetic testing benefits management arm of Medco



Genetic testing benefits management companies

- “..... a health management company that specializes in helping employers and other health care payers manage medical costs and improve employees' and members' health by assuring optimal utilization of genetic testing. Clients realize value through:
- Scientific determination of a framework and rationale for covering and excluding specific genetic tests, based upon clinical validity and utility - Hard and soft edits
- Negotiation of discounted prices and quality/service standards with a contracted network
- Identification of patients, through analysis of medical and prescription claims, who may benefit from genetic testing, and then facilitation of testing. This can lead to:
 - Reduction of morbidity and costs by optimizing therapeutic interventions
 - Reduction of mortality through earlier diagnosis and better treatment
- Demonstrate clinical utility and comparative effectiveness of pharmacogenetic and other tests, with the objective of accelerating adoption into mainstream care
- Customer services: GTBMC may interact directly with patients with physician permission or have direct contact; typically employ genetic counselors; over 50% of physicians require more information on the use of genetic tests
- Potential targets: Pharmacogenetic and other genetic (molecular) tests that affect choice (sometimes dose) of a prescribed pharmaceutical
 - Abacvir - hypersensitivity reactions
 - Statins – risk for myopathy
 - Gefintinib Rx - EGFR mutation status

Consumer-oriented Testing Services

DTC: Direct to Consumer



Consumer-oriented Testing Services

- Direct to Consumer
 - e.g. 23andme and similar
 - “Gain insight into your traits, from baldness to muscle performance. Discover risk factors for 97 diseases. Know your predicted response to drugs, from blood thinners to coffee. And uncover your ancestral origins”
 - Online access to data
 - Started ~\$1000, now \$99 with 1-year of [Personal Genome Service®](#) at \$9/mo
 - Encouraged to print and share report with your doctor to help understand risk areas
 - Participate in research (answer questions, data amalgamated by company)

Personal Genome Service™

Get to know your DNA. All it takes is a little bit of spit.

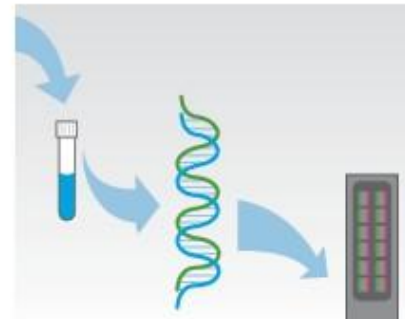
Here's what you do:



1. Order a kit from our [online store](#).



2. Register your kit, spit into the tube, and send it to the lab.



3. Our CLIA-certified lab analyzes your DNA in 6-8 weeks.



4. Log in and start exploring your genome.

Consumer-oriented Testing Services

- Physician-oriented
 - Navigenics (partnership with Mayo Clinic)
 - Through MD or corporate wellness program
 - GWAS data; CLIA-licensed laboratory
 - Risk assessment for a variety of medical conditions: Data available electronically
 - Employ genetic counselors
 - Existence Genetics (not GWAS, targeted analysis of selected DNA variants, “every single one of which has clinical significance”)
 - CLIA-licensed laboratory (large commercial reference laboratory)
 - Wellness and Longevity Panel (\$750)
 - Nexus DNA Chip – 1,065 genes related to 1,217 phenotypes (\$299)
 - rare recessive diseases
 - Common preventable diseases
 - Pharmacogenetic markers
 - partnership with fitness club chain Equinox to offer tests, information about exercise-induced muscle damage risk, fatigue, and developing osteoporosis
 - Two reports, one for patient, one for physician
 - Prevention and lifestyle modification information included
 - Not licensed in New York State
 - Working on next version – expected to have substantial exome content

Advisory/Educational services

Advisory/Educational services

- Information Companies
 - Amalgamate and assess evolving data on genomic variants for clinical actionability
 - Curated information; existing databases may contain errors
 - Offer this to users on a subscription basis
 - Interpret next generation sequencing studies; technical component done elsewhere
- Services to laboratories, clinicians and hospitals: “Cartagenia delivers diagnostic knowledge, systems and services to enable genetic labs and clinicians to perform clinically relevant genetic analyses quickly and efficiently, and offer patients and caregivers high quality genetic interpretation and counseling.”
 - Computerized analysis tools speed up initial genetic variant filtering and interpretation for producing the lab report.
 - Integrated phenotype input from clinics to narrow the field of search
 - Efficient inward and outward reporting in standardized, easy-to-use, paper-free formats.
 - Automatic import / export to shared databases, with unlimited storage, regular data back-up and zero maintenance headaches.
 - Upcoming knowledge libraries and databases include: oncogenes, copy number variants, mental retardation, autism spectrum disorders, cardiac pathology
- Follow-up services to advise on or discuss with patients the significance of results
 - Potential opportunity for physicians? – added value if patient provides history, lab, treatment and other data

New payment models: Accountable Care Organizations (ACOs)

New payment models: Accountable Care Organizations (ACOs)

- ACOs and other new payment models (e.g. Medical Homes) aim to improve patient outcomes and realize overall savings by tying reimbursement to quality metrics
 1. Provider-led organizations with a strong base of primary care that are collectively accountable for quality and total per capita costs across the full continuum of care for a population of patients
 2. Payments linked to quality improvements that also reduce overall costs
 3. Reliable and progressively more sophisticated performance measurement, to support improvement and provide confidence that savings are achieved through improvements in care
 - Better coordination of care to the patient in a 'team' environment, as well as reduced incentives for providing additional (?unnecessary) services that are a problem in fee-for-service systems
- Payment for an episode of care (outpatient) – much like inpatient DRGs
- New concept with significant political resistance on many fronts
 - healthcare costs in the US at least 50% higher (17-18% of GDP) than any other developed nation
- Potential opportunities for pathologists to participate more broadly in patient care teams integrating laboratory information (clinical and anatomic) with current or evolving clinical features in the formation of initial and follow-up treatment plans
 - More comprehensive and sophisticated than just a 'number'

PHC Going Forward



**“In this race to the future there are drivers,
passengers, and road kill.”**

Source: excerpted from: G. Hamel and C.K. Prahalad, Hemispheres pp. 37-42,
Competing for the Future, Harvard Business School Press, 1994.

Questions/Discussion

Next in the Series of Free PHC Webinars

- **Clinical Use of Whole Genome and Whole Exome Sequencing Today,**
December 7th, 11:00-12 pm CT
 - Paula North, MD, FCAP and David Bick, MD
- Go to www.cap.org/institute For All Upcoming Webinars!
- Past Webinars Available Now Online at www.cap.org/institute
 - Validating Whole Slide Imaging Systems for Diagnostic Use in Pathology
 - The Why, What and How of Identifying Patients at Risk
 - How to Have Successful Patient Interactions
 - Next-Generation Sequencing for the Clinical Laboratory
 - Accountable Care Organizations
 - Whole Genome Analysis as a Universal Diagnostic
 - How to Build and Fund a Financially Viable Molecular Lab
 - Cancer: The Critical Role of Pathology

CAP Learning – New Molecular Oncology CME Activities



**Coming in
November**

- **Last of 6 new online courses, all offering .5 CME**

- **Molecular Diagnosis of Ewing Sarcoma/pPNET**

- Review sample requirements and handling for RT-PCR, FISH, and cytogenetic analysis as they pertain to evaluating mesenchymal neoplasms
- Describe the advantages and limitations of genetic approaches commonly used in the classification of mesenchymal neoplasms to include conventional karyotyping, FISH, and RT-PCR



**Coming in
December**

- **BRAF Mutation Testing in Thyroid Cases**

- Recognize the importance of BRAF mutation testing for preoperative diagnosis of thyroid cancer
- Recognize importance of interpretation of molecular testing results have on patient management
- Recognize how selection of patient with cytologically indeterminate thyroid nodules for molecular testing can enhance the accuracy of cytologic diagnosis

- **Developed by members of the CAP Molecular Oncology committee**
- **Pricing:** \$25.00 member / \$50.00 non-member

CAP Learning – Other Molecular Oncology CME Activities

Course	Learning Objectives
Molecular Pathology: An Introduction to DNA Technology and Diagnostic Applications (SAM eligible) CME/SAM – 2.0	<ul style="list-style-type: none"> -Identify potential application of molecular pathology -Describe the chemical structure and properties of DNA and RNA -Explain the different types of genetic variations -Identify diagnostic techniques in molecular pathology
Archives Applied: KRAS (SAM eligible) CME/SAM – 1.0	<ul style="list-style-type: none"> -Identify whether anti-EGFR therapy is an appropriate treatment method for a patient case -Describe advantages and limitations of specific KRAS mutation testing methods -Identify the appropriate elements to include in the report for a patient case -Describe the current role of KRAS mutation testing for management of patients with metastatic colorectal cancer
Archives Applied: Molecular Test Validation (SAM eligible) CME/SAM = 1.0	<ul style="list-style-type: none"> -Identify the appropriate: <ul style="list-style-type: none"> -test parameters for an analytic quantitative or qualitative test -clinical performance characteristics for test validation -performance characteristics for a quantitative or qualitative test -elements to include in test validation documentation -Identify pre-validation considerations for a proposed molecular pathology test
Archives Applied: Molecular Diagnostics of Soft Tissue Tumors (SAM eligible) CME/SAM = 1.0	<ul style="list-style-type: none"> -Recognize which genetic alterations seen in soft tissue tumors are amenable to molecular diagnostics using routine clinical genetic approaches -Describe characteristics of chromosomal translocations in soft tissue sarcomas Identify the advantages and limitations of conventional cytogenetic analysis for soft tissue tumors -Identify approaches for assessing inactivation of a tumor suppressor gene, for example the SMARCB1 (<i>INI1</i>) in soft tissue tumors -Identify the advantages and limitations of molecular cytogenetic analysis for soft tissue tumors

CAP Learning – Other Molecular Oncology CME Activities

Course	Learning Objectives
Molecular Testing for AML Cases CME – .5	-Recognize molecular oncology knowledge and skills required of pathologists that can mitigate problems and enhance patient care with respect to specimen handling -Realize the effects that appropriate specimen handling and communication throughout all stages of diagnosis have in enhancing patient care -Reflect on your own knowledge and skills in specimen handling and patient care, and identify what can help you and your practice be more effective in these areas of molecular oncology
BRAF Mutation Testing in Melanoma CME – .5	-Follow quality assurance policies and procedures to ensure adequate sample collection and proper handling techniques for molecular oncology tests -Use appropriate result reporting principles for incorporating molecular test results into surgical pathology reports
Molecular Testing for Lymphoma Cases CME - .5	-Recognize molecular oncology knowledge and skills required of pathologists that can mitigate problems and enhance patient care with respect to specimen handling -Realize the effects that appropriate specimen handling and communication throughout all stages of diagnosis have in enhancing patient care -Reflect on your own knowledge and skills in specimen handling and patient care, and identify what can help you and your practice be more effective in these areas of molecular oncology
Adenocarcinoma and EGFR and KRAS Mutation Testing CME - .5	-Recognize the indications for EGFR and KRAS molecular testing as they pertain to non-small cell lung cancer -Interpret molecular diagnostic test results and correlate them with the diagnosis pertaining to non-small cell lung cancer

Launched October 17th...

NEW!

The screenshot shows the CAP Learning Portal landing page. At the top, there is a navigation bar with tabs for 'Home', 'Advocacy', 'Reference Resources and Publications', 'Learning Portal', 'Accreditation and Laboratory Improvement', and 'Members'. Below the navigation bar, there is a 'Welcome' section for Kristina Schwartz. The main content area features three large images with call-to-action buttons: 'Access Knowledge', 'Build a Learning Plan', and 'Browse Learning Options'. Below these images is a banner for 'The New Learning Portal' with a 'LAUNCH' button. The page also includes sections for 'Advanced Practical Pathology Programs (APPs)', 'Self-Assessment Modules (SAMs)', 'MyMOC', and 'Participating Organizations'.

New CAP Learning Portal

- The CAP Learning Portal landing page on the cap.org website replaces the current Education Programs page design. A user must log into cap.org in order to access further information.
- The CAP Learning Portal includes new tools to support the learning needs of pathologists such as:
 - Learning Options search/catalog
 - Competency Model for Pathologists
 - Personal Progress Check (member only tool)
 - My Learning Plan (member only tool)
 - Help Center
- Benefits
 - Increase effectiveness to plan and manage learning
 - Increase efficiency to target learning needs and identify premium learning solutions
 - Increase satisfaction with learning solutions that meet specific learner needs
 - Increase capability to maintain professional certifications

To learn more...

- For more details and to register for/access Molecular Oncology educational offerings:
 1. Log in to the cap.org website
 2. Click on Launch Portal
 3. Click on the Learning Options tab
 4. Type Molecular Oncology in the Search box

A list of available learning options displays

The screenshot displays the CAP Learning Portal interface. At the top, there is a navigation bar with the CAP logo and links for Home, Help Center, and Exit. Below this, there are tabs for 'My Learning Plan', 'Personal Progress Check', and 'Competency Mode'. A 'Learning Options' tab is highlighted with a pink box. On the left side, there is a search box containing the text 'Molecular Oncology', also highlighted with a pink box. Below the search box are filters for Competency, Level, and Type. The main content area shows search results under the heading 'Results'. Three results are listed: 'BRAF Mutation Testing in Lymphoma Cases', 'BRAF Mutation Testing in Melanoma Cases', and 'Molecular Testing for AML Cases'. Each result includes details such as Competency, Type, Experience Level, Added date, and Provider.