How to Set Up a Good Educational Curriculum for Fellows –Including Pre Recorded and Internet Materials

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Disclosures:

Member of the ACGME Allergy/Immunology RRC

(these are my opinions and not that of the ACGME)

Peace and Tranquility: Mountains of Utah

Taking a “Zen” moment to clear my head for the task at hand

Setting up a Curriculum : Questions to Ask

1) What are the requirements of the ABAI

2) What are the requirements of the ACGME Allergy/Immunology RRC

3) What elements do you think are important that aren't required e.g. Board Review, Practice Management

Looking at Available Resources

- ideal world your institution and faculty could provide all the resources and lectures
- time available to have educational conferences remembering that 25% of a fellows training in a 2yr program is alotted for education (other)
- best to set up a 2 yr curriculum if a 2 yr program
- Research
- Core curriculum for all training programs at your institution
- Statistics
- Business Management, Fatigue Mitigation, Health Care disparity etc
- Quality improvement

ABAI/ACGME RRC Requirements

Blueprint Overview

Overview

The examinations include items listed in the examination blueprint as determined by the ABAI Board of Directors as well as current ACGME Program Requirements for Residency Education in Allergy and Immunology.

Immune System

Candidates for certification must be familiar with the fundamental elements of the immune system, such as the types of immune cells and the anatomical organs that constitute the immune system, the circulation patterns of immune cells, the biologic roles of products of the immune system, and the abnormal conditions of the immune system that constitute immunopathology. Moreover, the candidate will be expected to be proficient in understanding the molecular basis of allergic and other immune reactions, including interaction between immune cells, cell membrane signal transduction pathways, gene expression, cytokine release, receptor targeting, cellular differentiation and death. Proficiency must be demonstrated in the diagnosis and treatment of allergic and other immunologic diseases.

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ABAI/ACGME RRC Requirements

Allergic and Immunologic Diseases

Because the ABAI is a conjoint board representing pediatric and adult medicine, the candidate must master the spectrum of allergic and immunologic diseases as it presents in children and adults. In addition to a familiarity with allergic diseases, including allergic rhinitis, asthma, atopic dermatitis, and urticaria, the candidate must be knowledgeable in autoimmune conditions.

Primary Immunodeficiency States

Equally important as competence in diseases of immune dysfunction is the knowledge of human pathology that results from an absence of immunity, either whole or partial, congenital or acquired. Thus, an understanding of the primary immunodeficiency states is required, including congenital disorders, absence of specific complement components, lack of specific neutrophil function, absence of specific adhesive cellular glycoproteins, and dysfunctional states of the immune system produced by external agents.

ABAI/ACGME RRC Requirements

Clinical and Laboratory Tests

It is important for the candidate to demonstrate proficiency in the proper selection of appropriate clinical and laboratory tests, which aid the formulation of a clinical diagnosis based upon first obtaining a detailed medical history and performing a complete physical examination. The candidate must understand the scientific basis of the following list (non-inclusive) of tests: serum immunoglobulin determination, functional antibody measurement, complement component and functional assays, lymphocyte subset analysis using monoclonal antibodies and flow cytometry, cytokine assays, lymphocyte proliferation assays with mitogen and antigens, and neutrophil and monocyte chemotaxis, phagocytosis, and killing assessment. Candidates must also have familiarity with the misuse of standard tests and with controversial tests in allergy and immunology.

Molecular Diagnostic Techniques

In addition, competence must be demonstrated with the use of molecular diagnostic techniques involving the binding of ligands to nucleic acid or polypeptide sequences. The importance of DNA replication technology must be understood. The molecular basis for immediate hypersensitivity skin testing must be understood in the context of the detailed molecular events occurring in the tissue mast cell and blood basophil, particularly the release of preformed mediators, and in the generation of newly formed mediators. Similarly, skin testing for T cell competence with recall antigens must be understood in relation to antigen presentation, cytokine secretion and interaction, and lymphocyte subset activation and function.

ABAI/ACGME RRC Requirements

Experimental and Clinical Studies

The candidate must understand the principles and analytic methods employed in experimental clinical studies for determining the diagnostic utility of specific tests and in evaluating the safety, toxicity, efficacy and outcomes of treatments and drugs for allergic and immunologic disease. Candidates must be familiar with the principles and methods employed in epidemiologic studies.

Pathophysiology, Clinical Presentation, and Immunologic Testing

A corollary of the competence of the candidate in understanding the pathophysiology, clinical presentation, and immunologic testing of allergic and other immunologic diseases is the knowledge of appropriate treatment options. For example, the common aspect of all types of asthma is the presence of airway inflammation. Definitive treatment of asthma demands that therapies be utilized that include interruption of the inflammatory response. Thus, candidates for certification must understand use of drugs that decrease airway inflammation in asthma

ABAI/ACGME RRC Requirements

taken from www.abai.org

Allergic Response

Based upon the molecular knowledge of the allergic response, the candidate must appreciate the importance of allergen avoidance and medical treatment of allergic rhinitis before initiation of the more intense treatment of immunotherapy. In the latter therapy, the candidates must demonstrate competence in allergen selection and administration in successful treatment regimens.

Therapy for Immunologic Diseases

Therapy for immunologic diseases must be understood, such as (non-inclusive): intravenous immune globulin for antibody deficiency, treatment of immunodeficiency with biologic response modifiers, HLA-identical and HLA-haploidentical (T cell-depleted) bone marrow transplants for cellular immunodeficiencies, and gene replacement therapy currently used for the immunodeficiency associated with adenosine deaminase deficiency as well as theoretical principles/potential approaches in other congenital immune disorders.

A.B.A.I. Certification Blueprint

Taken from www.abai.org

A. Allergy and Hypersensitivity Principles and Disorders (epidemiology, risk factors, clinical presentation, diagnosis and differential diagnosis, treatment/management, physiology/pathophysiology)	54%
1. Head and neck	**11%**
A.1.a. Nasal (allergic and non-allergic rhinitis)	
A.1.b.Sinus (acute and chronic, NP, allergic fungal sinusitis)	
A.1.c. Ocular	
A.1.d. Anatomy, physiology & pathology	
A.1.e. Diagnostics – Nasal/conjunctival provocation, mucociliary function	
A.1.f. Cough	
2. Dermatologic	**11%**
A.2.a. Eczema	
A.2.b. Atopic Dermatitis	
A.2.c. Contact Hypersensitivity	
A.2.d. Urticaria	
A.2.e. Angioedema (hereditary and acquired)	
A.2.f. Anatomy, physiology & pathology	

3. Lung	**11%**
A.3.a. Asthma and related disorders	
A.3.b. Occupational diseases	
A.3.c. ABPA	
A.3.d. Hypersensitivity pneumonitis	
A.3.e. Eosinophilic granulomatous polyangiitis (CSS)	
A.3.f. COPD	
A.3.g. ILD	
A.3.h. Anatomy, physiology & pathology	
A.3.i. Pulmonary diagnostic testing: e.g., spirometry, bronchoprovocation, body plethysmography, FeNO, IOS, Mucociliary function)	
4. Food and Drug Allergy/Hypersensitivity Reactions (not including eosinophilic GI disease)	**11%**
A.4.a. Adverse Reactions to Foods	
A.4.b. Allergens	
A.4.c. Adverse Reactions to Drugs & Biologicals (epidemiology, mechanism & management principles)	

5. Anaphylaxis and Mast Cell Activation Disorders (not food or drug-related)	**10%**
A.5.a. Idiopathic	
A.5.b. Exercise	
A.5.c. Latex	
A.5.d. Stinging insect	
A.5.e. Mastocytosis	
A.5.f. Other mast cell disorders	

B. Immunological Disorders (epidemiology, risk factors, pathogenesis, clinical presentation, diagnosis and differential diagnosis, treatment/management)	45%
1. Immune Inflammatory Disorders	**10%**
B.1.a. Immune complex disorders	
B.1.b. Autoimmune disorders	
B.1.c. Autoinflammatory (febrile) disorders	
B.1.d. Vaccination & immunomodulatory therapeutics	
B.1.e. Other aspects of immune-mediated inflammation	
2. Immunodeficiencies	**16%**
B.2.a. SCID	
B.2.b. Combined Immunodeficiency	
B.2.c. T cell disorders	
B.2.d. B cell disorders (hypogammaglobulinemia, antibody deficiencies)	
B.2.e. Phagocytic disorders	
B.2.f. Complement disorders	
B.2.g. TLR signaling pathways	
B.2.h. IL-12/IFN-gamma pathways	
B.2.i. Secondary immune deficiency	
B.2.j. Other immune dysregulation and immunodeficiencies	

3. Eosinophilic and Gastrointestinal Disorders	**6%**
B.3.a. Eosinophilic gastrointestinal disorders (includes Eosinophilic esophagitis)	
B.3.b. Hypereosinophilic syndromes	
B.3.c. Inflammatory bowel disease	
B.3.d. Celiac disease	
B.3.e. Anatomy, physiology & pathology	
4. Immune system & Research Principles	**9%**
B.4.a. Immune system development/normal immune system	
B.4.a. Antigens including superantigens, determinants	
B.4.a. Antigen presentation & histocompatibility	
B.4.a. Immunoregulation / Tolerance	
B.4.a. Immunogenetics / Molecular Biology	
B.4.a. Immunoglobulin structure and function	
B.4.a. T & B Cell Ligand-Receptor Interactions & Signal Transduction / Cell Activation / Anergy	

B.4.a. Cytokines / Chemokines & Their Receptors	
B.4.a. Adhesion Molecules	
B.4.a. Complement, coagulation, fibrinolytic & kallikrein–kinin immune system	
B.4.a. Immediate Hypersensitivity (IgE-Mediated)	
B.4.a. IgG/IgA/IgM/FcR-Mediated Reactions (e.g. ADCC, immune complex, opsonization)	
B.4.a. Delayed type hypersensitivity / Cell-mediated immunity	
B.4.a. Innate Immunity	
B.4.b. Cellular mechanisms of immune responses including cytokines and mediators	
B.4.b. Lymphocytes	
B.4.b. T cells & receptors	
B.4.b. B cells & receptors	
B.4.b. Other lymphocytes (e.g. NK, NK-T)	
B.4.b. Antigen-Presenting Cells (e.g., Monocytes, Macrophages, Dendritic Cells)	
B.4.b. Mast Cells / Basophils	
B.4.b. Eosinophils	
B.4.b. Neutrophils	
B.4.b. Other cells (e.g. endothelial, epithelial, smooth muscle, fibroblasts, platelets)	
B.4.c. Research Principles	
B.4.c. Experimental Design	

5. Non-disease specific pharmacology/therapeutics (e.g. mechanism of action, pharmacokinetics, classes of therapeutics)	**2%**
6. Allergens, Antigens and Extracts (non-disease specific properties, measurement & avoidance)	**2%**
B.6.a. Aerobiology (e.g. pollens & measurement)	
B.6.b. Molds & Fungi	
B.6.c. Indoor Allergens	
B.6.d. Animal, insect & arthropod allergens	
B.6.e. Pollutants	
B.6.f. Allergen extract standardization & stability	
B.6.g. Specific Diagnostic Modalities	
C. Emerging Health Priorities (e.g. disparities of care, opioid crisis, wellness, burnout, pandemic)	**1%**
Total:	**100%**

Other Important Items

Procedural Competencies

Board Review

Journal Club

Interesting Case Conferences

Research Conference

Statistics

Practice Management Issues

Common Core Curriculum /Lecture Series/ Workshops for all fellows in institution

ACGME Resources

Learn at ACGME : Learning Portal with apps, podcasts and video workshops providing

Well Being Resources

Covid 19 Resources

AAAAI Resources

- **Professional Education / For Program Directors accessible after log in**
- **Teaching slides on common topics (16 sets)**
- **Education Modules**
- **Telemedicine Resources**
- **Procedural Competency Templates**
- **Virtual Annual Meeting Videos**
- **Clinical Immunology Society (CIS) Webinars**
- **Alumni Surveys**

ACAAI Resources

Toolkits for a Variety of Diseases

Teaching Slides

Learning Connection : recorded lectures/webinars; mini seminars; stats for clinicians (FREE for Members)

FIT Corner Board Review

C.O.L.A Lectures Live and online library

Board Review Resources

Other Resources

- **AMA Ed Hub**: articles and some videos on a variety of topics; easy to search e.g. Article on “Choosing Your First or Next Job” article /modules with loads of helpful materials as well as short video of interview with the author. Great to use for presentation and discussion.
- **State Medical Society:** Missouri State Medical Society offer free lectures by experts on negotiating contacts; preparing a CV and job hunting for example
- **Local, State, and Regional Allergy Societies:** may have speakers, workshops, people to serve as mentors on a variety of areas related to practice.

Setting up a Schedule

-Topics that are covered once in the 2yrs	Topics covered every year	- Research Conference	Journal Club
- Patient Management	- Board Review	- Laboratory Series	- Boot Camp
- Immunology Course	- Procedural Competencies	Quality Improvement	Safety Modules

Gathering Your Resources

- Decide what speakers are available at your institution and what topics they can cover
- **Look for educators** in your division and outside as well as available researchers
- **Look for common resources** set up by your institution that cover “Common Core Curriculum” required of all training programs such as **statistic courses, quality improvement workshops, fatigue mitigation, professionalism, etc.**
- **Use your fellows** to provide conferences. They will remember the material and it gives them leadership and teaching skills
- **Fill in with available online resources** such as C.O.L.A. and the Learning Connection, materials from the PDA Toolbox at the AAAAI, AMA ed hub and other reputable materials online

“Rose Ceremony”

Impose on your own faculty to give lectures.

It’s a special… like being given “ a rose.”

Teaching is part of the job of a faculty member**. Guilt is a powerful tool.**

If someone is not very familiar with a tropic use this as an opportunity for a learning experience for that faculty member. (Take after Kim Risma, MD, PhD)

For the fellows, its part of their training. Be excited for them to learn!

FELLOW'S CONFERENCE ASSIGNMENTS 2021-2022

	Neuhaus	Pitt	Anderson	Stout	Parashar
JULY	SS	SS	SS	SS	SS
AUGUST	SS	SS	SS	SS	SS
SEPTEMBER	SS	SS	SS	SS	SS
OCTOBER	RC	PM	JC	CC	RP/RQ
NOVEMBER	PM	JC	CC	RQ	RC
DECEMBER	JC	CC	RP/RQ	RC	PM
JANUARY	CC	RQ	RC	PM	JC
FEBRUARY	RP/RQ	RC	PM	JC	CC

CC= CORE CURRICULUM

RC= RESEARCH CONFERENCE

JC= JOURNAL CONFERENCE

PM= PATIENT MANAGEMENT CONFERENCE

RP= REFLECTIVE PRACTICE & LEADERSHIP

SS= SUMMER SERIES C.O.L.A.

RQ = BOARD REVIEW QUESTIONS ASSIGNMENTS

Example of Monthly Conference Schedule

To receive the monthly C.O.L.A. schedule contact Myranda Gilmore at:

mlgilmore@cmh.edu

C.O.LA. Conferences are broadcast live and recorded. They are edited and uploaded to Itunes usually in 2-3 weeks.

ALLERGY / IMMUNOLOGY CONFERENCE SCHEDULE: March 2019

MONDAY	10:00 – 11:00 AM (CST)	
March 4	Chapter 9 Abbas: Activation of T Lymphocytes	Dr. Raje & Fellows
March 11	Immunology Jeopardy	Dr. Raje & Fellows
March 18	Chapter 10 Abbas: Differentiation and Functions of CD4+ Effector T cells	Dr. Raje & Fellows
March 25	Chapter 11 Abbas: Differentiation and Function of CD8+ Effector T cells	Dr. Raje & Fellows

MONDAY	11:00 AM – NOON (CST)	
March 4	Dermatology for the Allergist	Marc Serota, MD
March 11	Laboratory Series:	Jos Domen, PhD
March 18	Journal Club	Dr. Rath
March 25	Reflective Practice	Dr. U.G.

Example of Monthly Conference Schedule (cont.)

FRIDAY	10:00 – 11:00 AM (CST)	
March 1	Procedural Competency: IgG & Immunomodulators (Part I)	Faculty & Fellows
March 8	Update on Sublingual Immunotherapy	Dr. Linda Cox
March 15	^^^^Special Time 9AM**** Patient Management Conference	Dr. Kader
March 22	Update on Hereditary Angioedema	Tim Craig, DO
March 29	Safety Modules: Case III	Faculty & Fellows

FRIDAY	11:00 AM – NOON (CST):	
March 1	Procedural Competency: IgG & Immunomodulators (Part II)	Faculty & Fellows
March 8	****Jeopardy Board Review	Faculty & Fellows
March 15	****Statistics 10:30 – Noon (POB 3rd Floor Classroom A)	Ashley Sherman
March 22	Pharmacology Series: Antileukotriene Therapy (Chapter 100 Middleton)	Dr. Van Mason
March 29	Research Conference	Fellows & Faculty

**** NOT ON C.O.L.A.

^^^^ SPECIAL TIME CONFERENCES

**** ADDITIONAL CONFERENCES:

1st Year Fellow's Common Core Curriculum Conference	Tuesday March 12, 2019 8-9:30 AM	Housestaff Classroom	"	
2nd Year Fellow's Improvement Academy (Quality Improvement)	Tuesday March 5, 2019 1:15 – 2:30 PM	Housestaff Classroom	"	

C.O.L.A. Summer Series : BootCamp

ALLERGY / IMMUNOLOGY CONFERENCE SCHEDULE: JULY 2021

Allergy Conference Room: Broadway Building 9th Floor

Our regularly scheduled Conferences have been suspended for the summer to allow a series of introductory talks on common topics in Allergy/Immunology for the benefit of the new fellows.

Our regular schedule will resume Monday, October 11, 2021.

MONDAYS	10:00 – 11:00 AM (CDT)	
July 5	Independence Day Observed Holiday: NO CONFERENCE	
July 12	How to Write a Journal Article	Michael Schatz, MD
July 19	Dermatology for the Allergist	Marc Serota, MD
July 26	Principles of Traditional Immunotherapy	Harold Nelson, MD

MONDAYS	11:00AM – NOON (CDT)	
July 5	Independence Day Observed Holiday: NO CONFERENCE	
July 12	Pulmonary Function Testing	Gary Salzman, MD
July 19	Basics of Allergen Extracts	Gary Plunkett, PhD
July 26	Peanut Allergy Practice Parameter	Julie Wang, MD

Board Review

Reflective Practice and Leadership

- Monthly or every other month meeting of all fellows and 1 or 2 faculty members**. Fellow leads**.
- **Any subject/topic can be discussed**
- **What happens in reflective practice stays in reflective practice**
- **Goal is to come up with solutions to problems**
- Re-inforce that your door is always open for any problems
- One Aim to avoid “surprises” in the ACGME yearly survey
- Attempt to address any problem in the program before it becomes a BIG issue and make for a smooth running program

Areas covered by ACGME Survey

- Resources
- Professionalism
- Patient Safety and Teamwork
- Faculty Teaching and Supervision
- Evaluation
- Educational Content
- Diversity and Inclusion
- Clinical Experience and Education

SUMMARY

- Developing and providing a curriculum is hard with many moving parts.
- Ask for help! We all have been there.
- Important to outline a standard curriculum for your program and let it evolve based on needs and feedback.
- Take advantage of every available resource to make the process easier.
- Share ideas, materials, lectures etc. with other training program directors (we don’t have to keep re-inventing the wheel).
- Always be looking to make it better. The education and training of your fellows depends on it !

Some Valuable Links

- **ACGME Learn at ACGME** : https://dl.acgme.org
- **AAAAI: log in as member at www.aaaai.org Look under Professional Education and "For Program Directors"**
- **C.O.L.A. iTunes Library of videos: ACAAICOLA**
- **C.O.L.A. Live Conferences (Monday and Friday 10AM – Noon CST) www.childrensmercy.org/cola/ click on blue highlighted " Join live Microsoft Teams Meeting"**
- **ACAAI Learning Connection: https://education.acaai.org**
- **Jeopardy Templates: www.lifewire.com/free-jeopardy-powerpoint-templates-1358186**

A New Day? …. Issuing a Challenge to you all. Program's working on a shared curriculum…… approximately 85 core topics and 83 accredited programs……it's possible!

Thank You for you interest!

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