2021 WINTER FORUM

Activity Directors:
Phillip H. Mills, DO
Jefferey T. Mills, MD

Jointly Provided by...

American Society of
Anesthesiologists

GEORGIA SOCIETY of ANESTHESIOLOGISTS

GSA 2021 Winter Forum
January 9, 2021

Agenda – Version 4.0

7:20 a.m. **Welcome and Introductions, Justin Ford, MD**
Activity Directors: Phillip H. Mills, DO and Jefferey T. Mills, MD

7:30 a.m. **Randy Clark, MD, FASA, ASA President-Elect**
Anesthesiologists and CAAs can affect federal patient care policy

8:30 a.m. **Heather McKenzie, MD**
ERAS protocols and updates regarding C-Sections

9:30 a.m. **Break**

9:45 a.m. **Paramvir Singh, MD**
ASRA updates with special emphasis on perioperative anticoagulant guidelines

10:45 a.m. **Doug Olson, MD and Mike Nichols, CAA**
COVID-19 Update - Clinical and Statistical; Anesthesia impacts

11:45 a.m. **GSA General Business Meeting**

12:15 p.m. **Lunch Break**

12:30 p.m. **Kathryn Glas, MD**
The Myth of Work-Life Balance

1:30 p.m. **John King, Commissioner,** Georgia Department of Insurance
Gregg Conley, JD, Executive Counsel, GA DOI
Wyn Mortimer, MD, Chair, GSA Practice Management Committee
James E. "Jet" Toney, GSA Executive Secretary
Panel: How Georgia's 2020 "Surprise Billing" Law will change third-party billing, network contracts

2:30 p.m. Seminar Adjourns – Member Virtual Networking Event

ASA: Working for You

Randall Clark, MD, FASA

President Elect

January 9, 2021

American Society of Anesthesiologists®

asahq.org

Disclosures & Objectives

Nothing to disclose

Objectives: Participants will learn

- How ASA is working with members nationally and in the states to address current and emerging opportunities
- Key trends and challenges facing the specialty in the market, legislatures and regulatory agencies, nationally and in the states
- Education Resources
- Scientific & Clinical Information
- Professional & Career Resources

Special “Thank You” to…

ASA Director & Alternate Director

Director, Georgia Society of Anesthesiologists
Timothy N. Beeson, MD

Alternate Director, Georgia Society of Anesthesiologists
Matthew Klopman, MD

ASA Past President

1965 – Perry P. Volpitto, MD
1970 – John E Steinhaus, MD
1999 – John B. Neeld, Jr. , MD

Members of the specialty of note

Michelle Au, MD (D) is a state senator, her term begins, January 2021

Chuck Hufstetler, AA, was elected to the state senate for GA’s 52nd District in 2012.

Special “Thank You” to…

ASA Committee Chairs

Grant C. Lynde, MD, MBA, Chair - Committee on Quality Management & Departmental Administration

Steven L. Sween, MD, FASA, Chair - Committee on Governance Effectiveness and Efficiencies

State Component Officers

President: Justin Ford, MD
President-elect: Jennifer Scaljon, MD
Vice President: Julius Hamilton, MD
Secretary/Treasurer: Keith Johnson, MD
Immediate Past President: Steven L. Sween, MD

WE are ASA: Leaders in Patient Safety

Mission: Advancing the practice and securing the future

Vision: A world leader improving health through innovation in quality and safety

Values: Patient safety, physician-led care and scientific discovery

Strategic Pillars

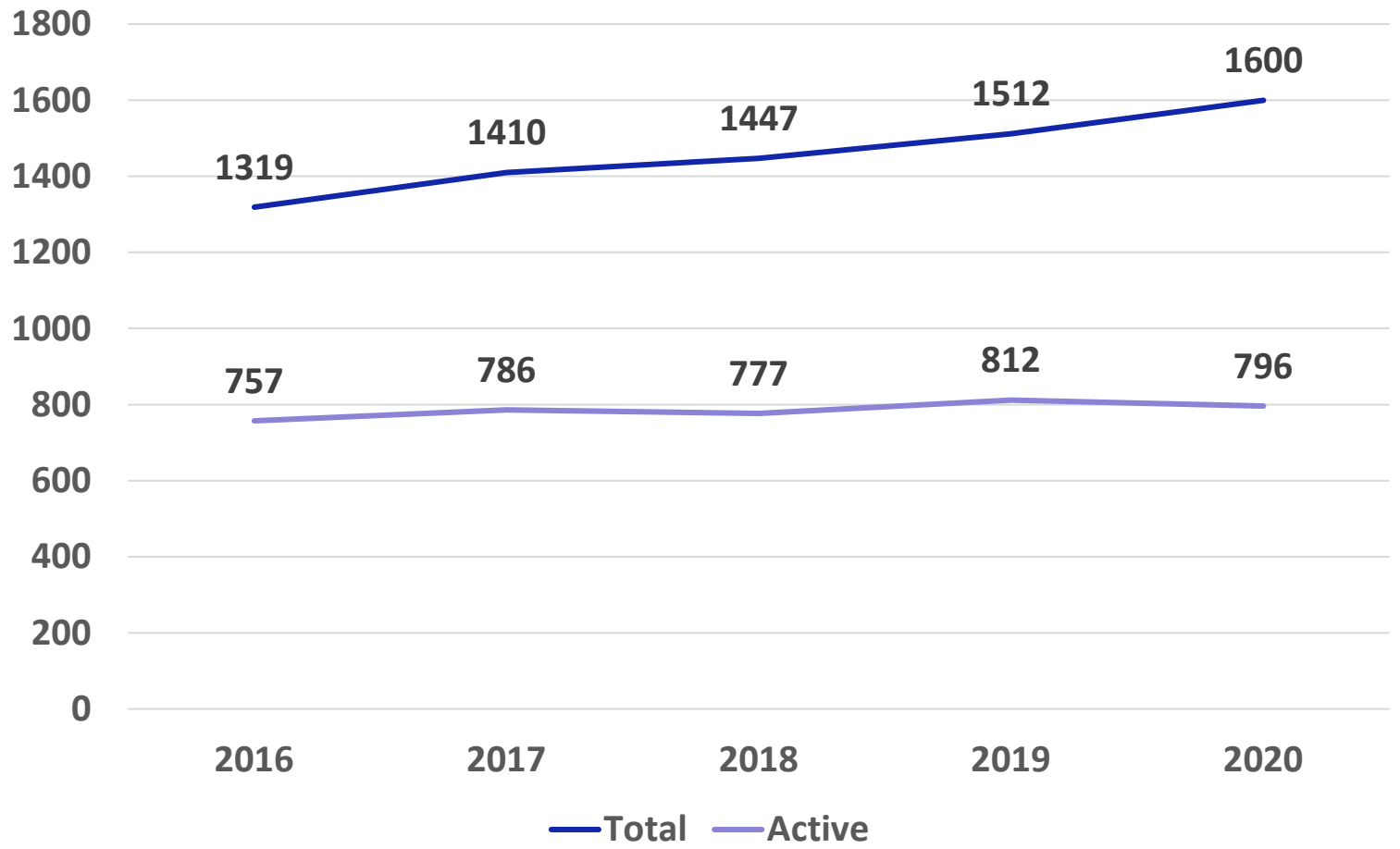
1. Advocacy
2. Quality & Practice Advancement
3. Educational Resources
4. Member Growth & Experience
5. Health Systems Leadership
6. Scientific Discovery

Membership

American Society of Anesthesiologists®

asahq.org

Georgia Society 5-Year Member Count Trend



State Component Member Recruitment & Renewal Assets

- ASA supplied the state components with recruitment/renewal postcards, customizable email templates, a communications calendar withASA's outreach efforts, and data to identify/target potential & renewing members.
- Themes and messaging reinforce the ASA + YOU membership campaign, highlighting how ASA and state components are partners for every career stage.

State Component Engagement

- Focused attention to strengthen relationships with components, new "Component and Intersociety Relations" department
- Improved data sharing and access
- New toolkit and resource library for components
- Open Forums for component leadership and staff on relevant topics such as:
    - COVID-19
    - Transitioning to virtual meetings
    - Resident engagement
    - Diversity, equity and inclusion issues

COVID

American Society of
Anesthesiologists®

asahq.org

COVID-19 Response and Resources

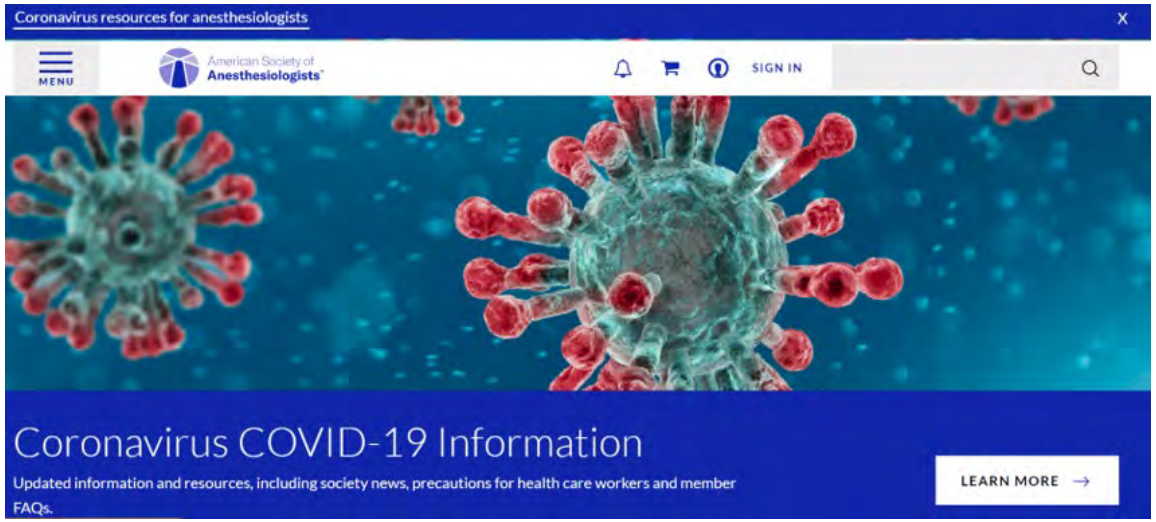
COVID-19 Council convened with thought leadership and expertise

- ASA Administrative Council
- ASA Committees on Critical Care Medicine, Equipment and Facilities, Occupational Health, Quality Management and Departmental Administration, Trauma and Emergency Preparedness
- Anesthesia Patient Safety Foundation (APSF)

Staff COVID-19 Taskforce actions:

- Member support and resource development
- Meetings and event planning
- Business continuity and staff safety

COVID-19 Response and Resources



- Clinical guidance and FAQs
- ASA position statements
- Anesthesia machine conversion
- Critical care education and training
- Position statements and advocacy
- Wellness advice
- Economic relief
- Late-breaking developments at federal level

Full resource center at **asahq.org/covid19info**
Accepting questions at **covid19@asahq.org**

COVID-19 Response and Resources

- Presented 8 weekly Town Hall Webinars for members and community
  - 3,600-8,600 registrants (85% members, 15% nonmembers)
  - Discussions on clinical guidance, return to surgery, economic issues, tales from the frontlines, wellness and self-care
- Distributed *Anesthesiology*® journal COVID online collection in March and *ASA Monitor*® COVID-themed issue in May
- Launched hotline of expert advice on anesthesia machines as ventilators
- Issued position statements and calls to action on vaccinations, testing, resumption of elective procedures, drug shortages, PPE
- Offered COVID-related content and education at ANESTHESIOLOGY® 2020

ASA Work with U.S. Govt Agencies on COVID-19

March 13, 2020
U.S. President Trump declared a national state of emergency,

March 16, 2020
ASA participates in an invitation-only conference call with the POTUS, VPOTUS, and the White House Coronavirus Task Force. Raises issue of anesthesiologists role in addressing COVID. Immediately after, all from Dr. Birx re ventilators.

March 24, 2020
ASA sends letter to POTUS and VPOTUS re top issues. Calls with Adm Brett Giroir, M.D., U.S. Department of Health and Human Services, Assistant Secretary for Health regarding access to ventilators and debate value of ventilator "splitting."

March 26, 2020
VPOTUS commends ASA for work on ventilators

March 27, 2020
ASA publishes APSF/ASA Guidance on Purposing Anesthesia Machines as ICU Ventilators. Updated April 7.

March 31, 2020
The American Hospital Association, American Medical Association, ASA, American Society of Health-System Pharmacists, and Association for Clinical Oncology ask DEA to step up efforts related to drug supply manufacturing.

March 30, 2020
U.S. President Trump extends lockdown to April 30.

April 1, 2020
Statement on purchase and wearing of PPE released

April 6, 2020
ASA urges POTUS and VPOTUS to invoke the Defense Production Act (DPA) and pursue swift action to secure sufficient PPE for the nation.

April 7, 2020
ASA sends formal request to FDA Commissioner Stephen Hahn, M.D. re drugs anesthesiologists are concerned about.

April 20, 2020
Call with Senior VA officials regarding APRN rule.

May 1, 2020
Call with senior Administration officials regarding VA issue.

July 29, 2020
Call with Senior HHS officials regarding Medicare supervision rule.

ASA/Physician Anesthesiologist Leadership Acknowledged

ASA® @ASALifeline · Mar 27

Thank you, @VP @Mike_Pence. Physician anesthesiologists are always ready to help. Our specialty is dedicated to making a difference and applying solutions when seconds count. #COVID19

17 136 667

ASA® @ASALifeline

ASA President @marydahlen spoke with @WhiteHouse officials this week to discuss priority issues facing physician anesthesiologists and health care providers, including ventilator availability and anesthesiologists' key role in critical care, during the #COVID19 pandemic.

You Retweeted

Ebony Jade Hilton, MD @EbonyJadeHilton · Mar 26

Proud to be an #Anesthesiologist and member of the @ASALifeline. We are the ones to call in crisis. We manage both elective and emergency surgeries in the #OperatingRoom and medically manage the critically ill in the #ICU. Every day presents a new challenge, & we face it head on.

2 26 75

ASA® @ASALifeline · Mar 27

The @Surgeon_General on @CBS talking about how ASA and physician anesthesiologists have identified tens of thousands of ventilators that can be used to keep critical patients alive during the #COVID19 pandemic. cbsn.ws/2QKdlbB.

Surgeon General Jerome Adams: Coronavirus projections "based on wor...
The U.S. has become the new global epicenter of the coronavirus pandemic as cases in the country surpass Italy and China. As the numbe...
cbsnews.com

24 236 1K

ASA® @ASALifeline · Mar 26

During yesterday's @WhiteHouse #coronavirus press briefing, Dr. Birx thanked ASA and President Mary Dale Peterson, M.D., for providing innovative and life-saving leadership in the modification of ventilators to fight this global crisis. ow.ly/IpCV50yWWvt

2 10

Leadership and Collaboration

Government

- Federal: WH Task Force, FDA, CMS/HHS
- State: NGA, State level activities

Other medical associations or related

- Anesthesiology subspecialties
- ACS, Surgical Specialties
- SCCM, CHEST, ATS
- AHA/ACHE
- AAAA

Corporate Partners

- Grant support
- Opportunities for members

apsf Anesthesia Patient Safety Foundation

COVID-19 Media Coverage

Achieved extensive media coverage to reflect unique leadership and value of anesthesiologists

ABC NEWS | CORONAVIRUS HEALTH & SCIENCE

Anesthesiologists hailed as special heroes in fight against coronavirus

But the most valuable procedure they perform also puts them in the most danger.

By Dr. Angela N. Baldwin
April 8, 2020, 4:04 AM • 6 min read

0:47

Coronavirus and the human body

People are exposed to a coronavirus through mucus membranes of the eyes, nose and mouth via respiratory droplets.

Health care workers across the U.S. have risen to the occasion in combating the coronavirus pandemic. Skilled practitioners place themselves in harm's way to save lives -- but some medical professions face more dangers than others.

Anesthesiologists, in particular, have a vast skill set that makes them

POLITICO
Managed Healthcare EXECUTIVE
USA TODAY
AP ASSOCIATED PRESS
REUTERS
THE HILL
Modern Healthcare
HealthDay News for Healthier Living
BECKER'S SPINE REVIEW
ANESTHESIOLOGY NEWS
ROMPER
FOX NEWS channel
BECKER'S HOSPITAL REVIEW
KHN KAISER HEALTH NEWS
DOCTOR RADIO
abc NEWS

ASA and anesthesiology featured in more than **2,800 media placements** to reach an estimated audience of **more than 5 billion**

ASAPAC Update

American Society of Anesthesiologists®

asahq.org

Why Contribute? Our Dollars Make a Real Difference

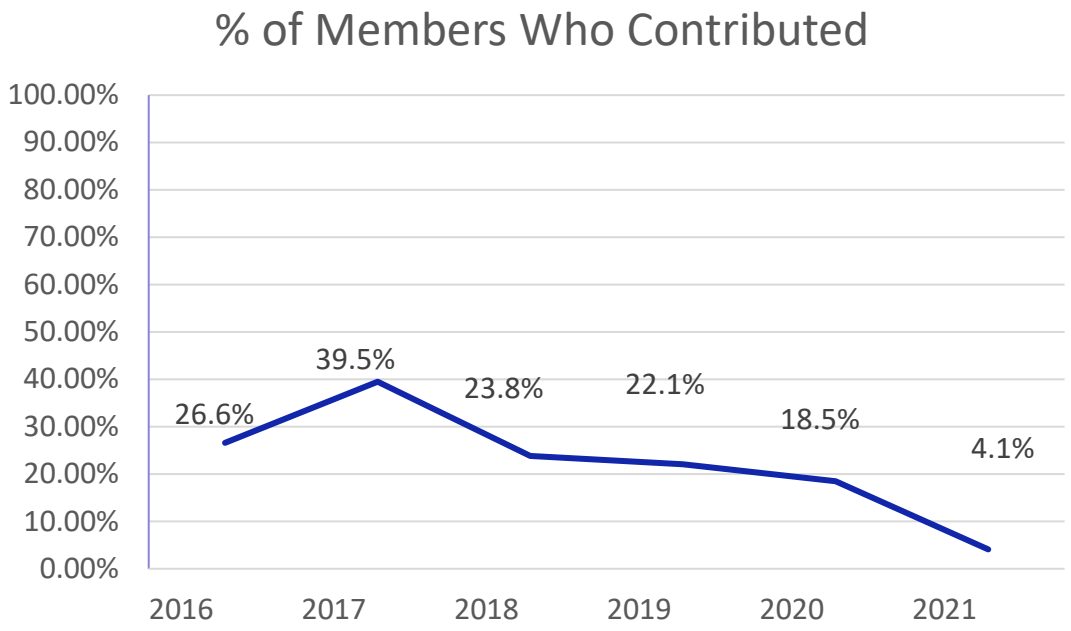
The power of unity and combined resources!

Important at the federal and state level.

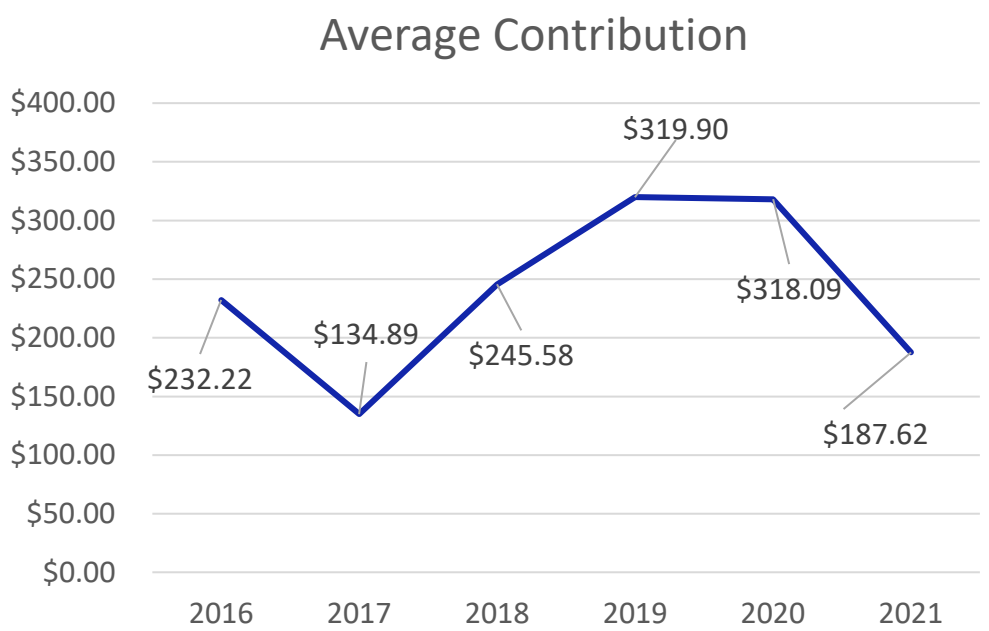
Powerful tool in ASA's Advocacy for:

- Economically sound practices
- Patient safety and quality of care
- Physician-led, team-based care
- Scientific discovery
- Support for the next generation of anesthesiologists

ASAPAC Activity by Georgia Members



ASAPAC's overall 2020 participation rate was 18.2%



ASAPAC's average contribution in 2020 was $326.83

Fiscal Year 2020 Residency Programs at 100%

- Baylor Scott & White
- Beaumont Health
- Cleveland Clinic Florida
- Emory University
- Geisinger Health System
- Georgetown University
- Indiana University
- Kansas University – Kansas City
- Kansas University – Wichita
- Louisiana University – Shreveport
- Maine Medical Center
- Mayo Clinic Arizona
- Mayo Clinic Florida
- Mayo Clinic Minnesota
- Michigan State University
- Mount Sinai-Miami Beach
- Mount Sinai – New York
- Ochsner Medical Center
- Tulane University
- University of Alabama
- University of Arkansas
- University of Chicago
- University of Colorado
- University of Connecticut
- University of Florida-Jacksonville
- University of Miami
- University of Nebraska
- University of Oklahoma
- University of Pittsburgh Medical Center
- University of Tennessee-Knoxville
- Virginia Commonwealth University
- Virginia Mason
- West Virginia University

Advocacy Update

American Society of
Anesthesiologists®

asahq.org

Key Advocacy Issues Update

2020 Issues

- COVID response
- Surprise Medical Bills
- Medicare Payments Cuts

Issues Carried over to 2021

- Medicare Supervision Waiver
- VA “Stone Memo” and VA health professional rule
- State Executive Orders/Opt-Outs

COVID-19 Advocacy Issues

Patient Care

- Expand access Critical Care Services

Addressing Shortages

- Ventilators
- Drug Shortages
- PPE

Economic Support

- Provider Relief Fund/CARES Act
- Payroll Protection Program/Small Business Administration
- Medicare Accelerated and Advanced Payment Program

Tools for ASA Members

- Webinars
- ASA and Joint Statements
  - "ASA and APSF Statement on Elective Surgery and Anesthesia for Patients after COVID-19 Infection"
  - "ASA Early Access to COVID-19 Vaccination for Anesthesia Professionals."

Surprise Medical Bills Language in Year-End Law

Key Provisions

- Effective date of January 1, 2022.

- Covers out-of-network services
- All federally regulated Employee Retirement Income Security Act (ERISA) plans (these are self-funded plans usually union and large employers that are not subject to state law or regulation).
- States that do not have a state surprise medical bill law.
- Does not supersede existing state laws.

- Prohibits plans and providers from balance billing patients without the patient's consent. (Patients are only responsible for in-network cost-sharing.)

Surprise Medical Bills Language in Year-End Law

Key Provisions

Process

- Insurer makes an initial or interim payment to out-of-network physician.
- Providers and plans negotiate for 30-days before accessing independent dispute resolution (IDR)/arbitration process.
- Arbitration process is baseball-style (each party submits an offer and the arbitrator has to choose one).
- Arbiter's consideration of billed charges is prohibited.
- "Batching" or bundling of similar claims permitted.
- No minimum billing amount threshold to enter into arbitration.
- Loser pays the cost of IDR process.
- A 90-day "cooling off period" for the same item/s or service/s with the same insurer.

Improvements Won by ASA and Physician Coalition

- The median in-network (MIN) payment rate is not mandated as interim/initial payment. MIN is only one consideration, among others, within the arbitration process.
- The inclusion of an Independent Dispute Resolution (IDR) process. No monetary threshold and “batching” permitted.
- The start of the IDR process is appropriately aligned with the implementation of the prohibition on surprise bills.

Improvements Won by ASA and Physician Coalition

- Arbiter explicitly prohibited from consideration of public payers including Medicare, Medicaid, and Tricare.
- Section on “Timely Billing” eliminated. Unrealistic deadlines deleted e.g. 15-day notification.
- Clarification of “90-Days Cooling Off” period. Claims may be submitted on 91st day.
- Study of potentially abusive insurer tactics moved forward 2 years.

2021 Medicare Fee Schedule Cuts

Payment Cuts Effective January 1

- FY 2021 Medicare Physician Payment Rule
- ⬆ Office/outpatient evaluation and management codes (E/M)
- "Budget neutrality" = ⬇ anesthesiology, critical care, radiology, surgery, nurse anesthetists, physical therapy, others.
- Pain medicine OK.

Specialty	Payment Change	Specialty	Payment Change
Nurse Anesthetist	-11%	Ophthalmology	-6%
Radiology	-11%	Portable X-Ray Supplier	-6%
Chiropractor	-10%	Radiation Oncology	-6%
Cardiac Surgery	-9%	Colon And Rectal Surgery	-5%
Interventional Radiology	-9%	Dietitian Nutritionist	-5%
Pathology	-9%	Gastroenterology	-5%
Physical/Occupational Therapy*	-9%	Independent Laboratory	-5%
Anesthesiology	-8%	Optometry	-5%
Critical Care	-8%	Oral/Maxillofacial Surgery	-5%
Nuclear Medicine	-8%	Orthopedic Surgery	-5%
Thoracic Surgery	-8%	Multispecialty Clinic	-4%
Audiologist	-7%	Infectious Disease	-4%
General Surgery	-7%	Hand Surgery	-3%
Neurosurgery	-7%	Physical Medicine	-3%
Plastic Surgery	-7%	Dermatology	-2%
Vascular Surgery	-7%	Podiatry	-1%
Emergency Medicine	-6%		

Data from Table 90: Proposed CY 2021 PFS Estimated Impact on Total Allowed Charges by Specialty
**This category includes Speech-Language Pathology.*

Medicare Cuts Relief in Year-End Law

Put money back into the fee schedule

- Blocks a new visit complexity add-on code (G2211) for 3 years.
- Adds $3 billion into the physician fee schedule in 2021.

Estimate -8% cut  -2% cut

Issues Pending

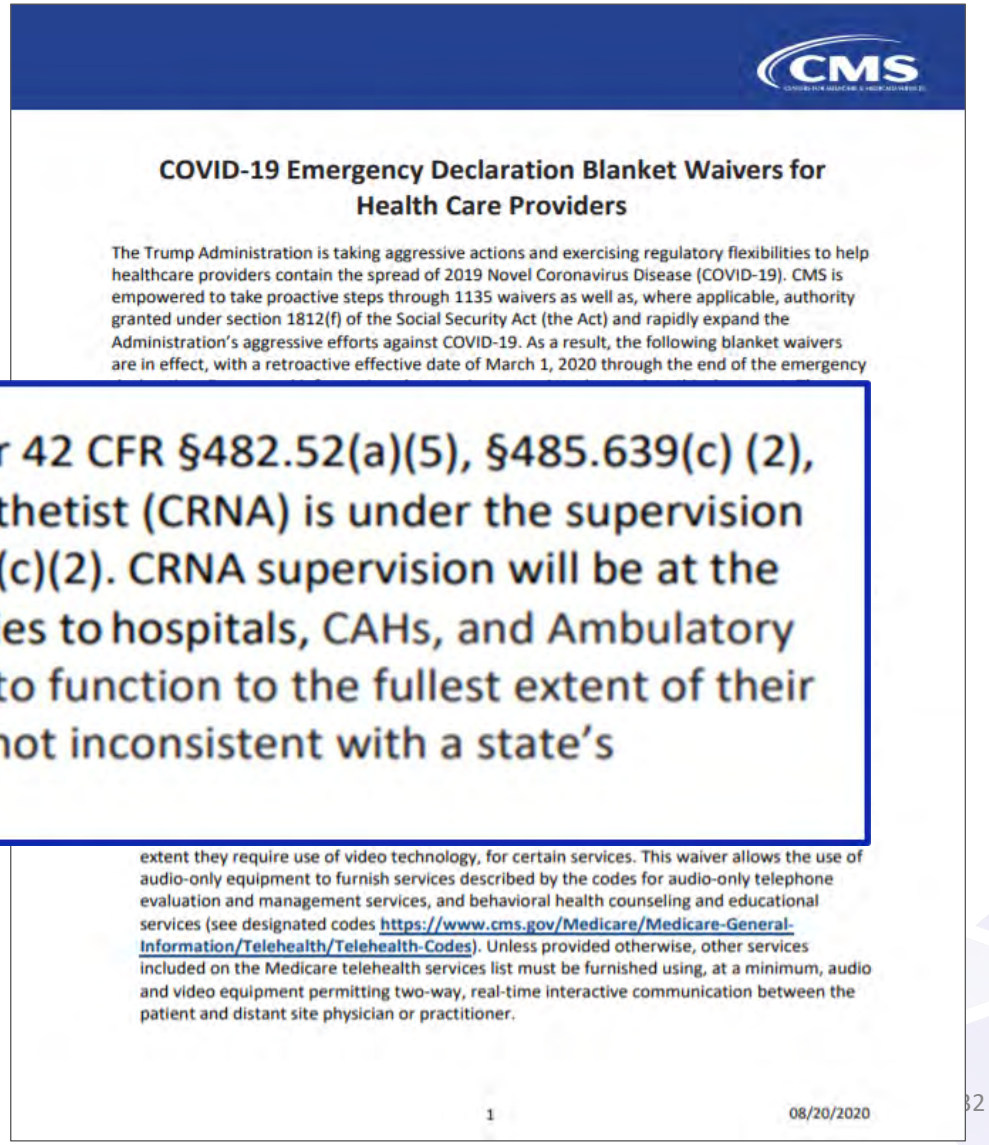
- President Trump and his Administration continue until **January 20**
- 117th Session of Congress began **January 3**

Waiver of Medicare Supervision Rule

COVID-19 Emergency Declaration Blanket Waivers for Health Care Providers

March 30, 2020

- **Anesthesia Services.** CMS is waiving requirements under 42 CFR §482.52(a)(5), §485.639(c) (2), and §416.42 (b)(2) that a certified registered nurse anesthetist (CRNA) is under the supervision of a physician in paragraphs §482.52(a)(5) and §485.639(c)(2). CRNA supervision will be at the discretion of the hospital and state law. This waiver applies to hospitals, CAHs, and Ambulatory Surgical Centers (ASCs). These waivers will allow CRNAs to function to the fullest extent of their licensure, and may be implemented so long as they are not inconsistent with a state's emergency preparedness or pandemic plan.


CMS

COVID-19 Emergency Declaration Blanket Waivers for Health Care Providers

The Trump Administration is taking aggressive actions and exercising regulatory flexibilities to help healthcare providers contain the spread of 2019 Novel Coronavirus Disease (COVID-19). CMS is empowered to take proactive steps through 1135 waivers as well as, where applicable, authority granted under section 1812(f) of the Social Security Act (the Act) and rapidly expand the Administration's aggressive efforts against COVID-19. As a result, the following blanket waivers are in effect, with a retroactive effective date of March 1, 2020 through the end of the emergency

extent they require use of video technology, for certain services. This waiver allows the use of audio-only equipment to furnish services described by the codes for audio-only telephone evaluation and management services, and behavioral health counseling and educational services (see designated codes https://www.cms.gov/Medicare/Medicare-General-Information/Telehealth/Telehealth-Codes). Unless provided otherwise, other services included on the Medicare telehealth services list must be furnished using, at a minimum, audio and video equipment permitting two-way, real-time interactive communication between the patient and distant site physician or practitioner.

1 08/20/2020

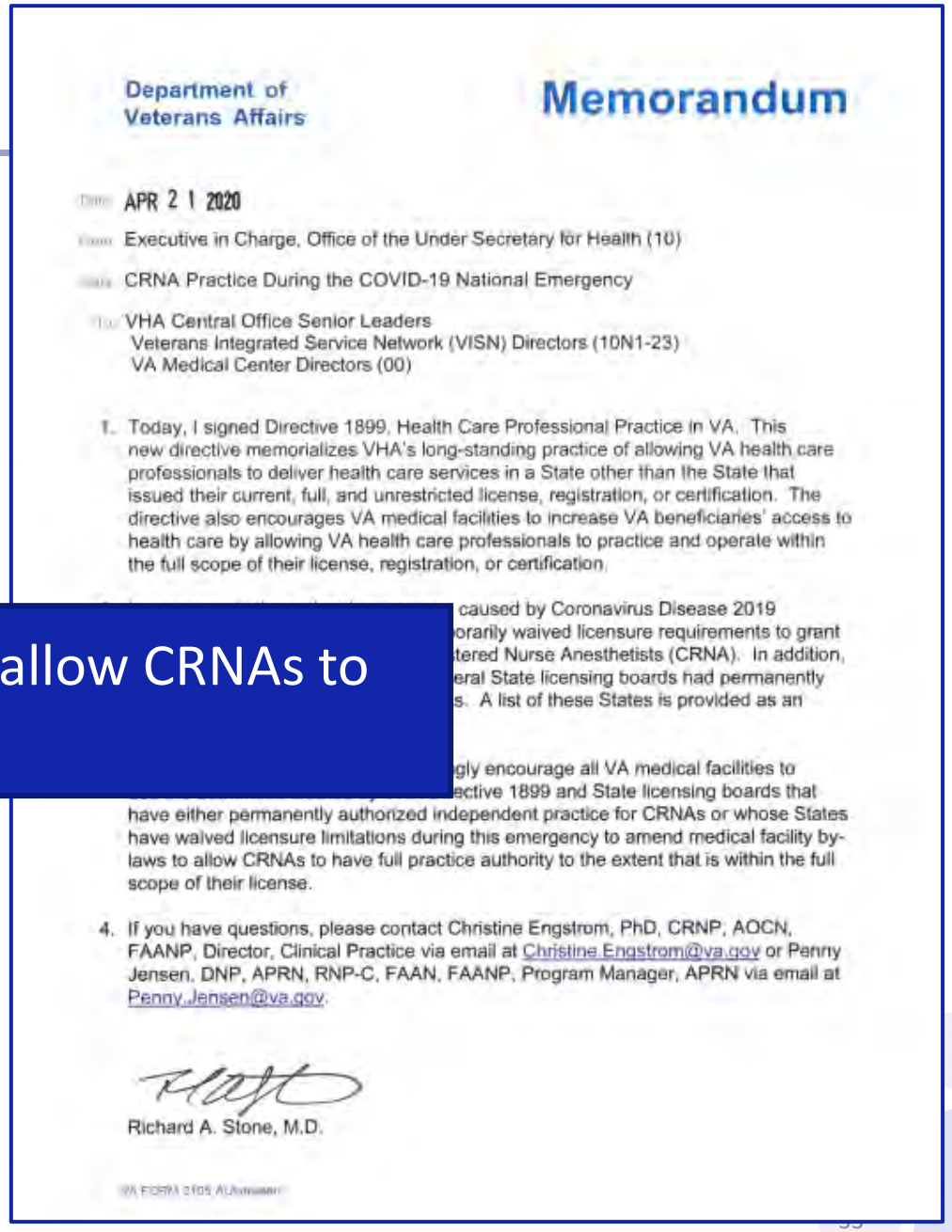
VA "Stone Memo"

VHA Executive in Charge, Richard Stone, MD

"CRNA Practice During the COVID-19 National Emergency"

"…I strongly encourage all VA medical facilities to…allow CRNAs to have full practice authority…"

April 21, 2020



Department of Veterans Affairs

Memorandum

Date: APR 2 1 2020

From: Executive in Charge, Office of the Under Secretary for Health (10)

Subj: CRNA Practice During the COVID-19 National Emergency

To: VHA Central Office Senior Leaders
Veterans Integrated Service Network (VISN) Directors (10N1-23)
VA Medical Center Directors (00)

1. Today, I signed Directive 1899, Health Care Professional Practice in VA. This new directive memorializes VHA's long-standing practice of allowing VA health care professionals to deliver health care services in a State other than the State that issued their current, full, and unrestricted license, registration, or certification. The directive also encourages VA medical facilities to increase VA beneficiaries' access to health care by allowing VA health care professionals to practice and operate within the full scope of their license, registration, or certification.

caused by Coronavirus Disease 2019
orarily waived licensure requirements to grant
tered Nurse Anesthetists (CRNA). In addition,
eral State licensing boards had permanently
s. A list of these States is provided as an

gly encourage all VA medical facilities to
ective 1899 and State licensing boards that
have either permanently authorized independent practice for CRNAs or whose States have waived licensure limitations during this emergency to amend medical facility by-laws to allow CRNAs to have full practice authority to the extent that is within the full scope of their license.

4. If you have questions, please contact Christine Engstrom, PhD, CRNP, AOCN, FAANP, Director, Clinical Practice via email at Christine.Engstrom@va.gov or Penny Jensen, DNP, APRN, RNP-C, FAAN, FAANP, Program Manager, APRN via email at Penny.Jensen@va.gov.

Richard A. Stone, M.D.

VA FORM 2105 ALAmended

State Challenges: Executive Actions and Opt-Out

Temporary State Executive Orders/temporary actions

- Michigan waiver rescinded on July 13
- New York hospital rule expired

Arizona and Oklahoma opt-outs

- Done with no warning; inconsistent with state law
- ASA working with AzSA and OkSA
    - AZ and OK have solid state laws

"To Do List"

❑ Submit your comments (deadline Jan. 11, 2021) on the VA rule at: www.safevacare.org

❑ Sign up for the ASA Grassroots Network to be informed as these and other issues progress: asahq.org/grassroots

Education Resources

American Society of
Anesthesiologists®

asahq.org

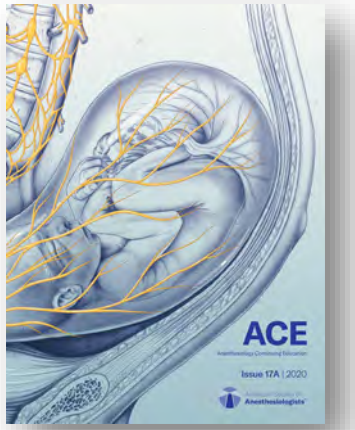
ASA Education Portfolio

- Created and vetted by leading practicing physician anesthesiologists
- Efficiently master the skills and knowledge necessary for daily practice
- Fulfill MOCA and CME requirements
- Wide range of topics and formats to suit schedules and preferred learning styles

ASA Education Portfolio = 300 + offerings

Offerings include:

- **Anesthesia SimSTAT** – Powerful, realistic online simulation training.
- **ACE** – Test what you know with 200 questions that reinforce and refresh fundamental knowledge.
- **SEE** – Key insights from more than 30 journals worldwide.
- **Fundamentals of Patient Safety** – A fresh review of core concepts.
- **Meetings** – ANESTHESIOLOGY® Annual Meeting and PRACTICE MANAGEMENT™



Anesthesia **SimSTAT**

TRAUMA | ROBOTIC SURGERY | PACU | L&D | APPENDECTOMY

Upcoming Initiatives

Serving known needs:

- Diagnostic Point of Care Ultrasound (POCUS) Certificate Program
- SelfStudyPLUS – learning platform for residents
- Enhanced Learning Management System (LMS) for improved learner experience
- Joint Providership Portal for component and sub-specialty providers
- New Conflict of Interest platform streamlining the COI process

Scientific & Clinical Information

American Society of Anesthesiologists®

asahq.org

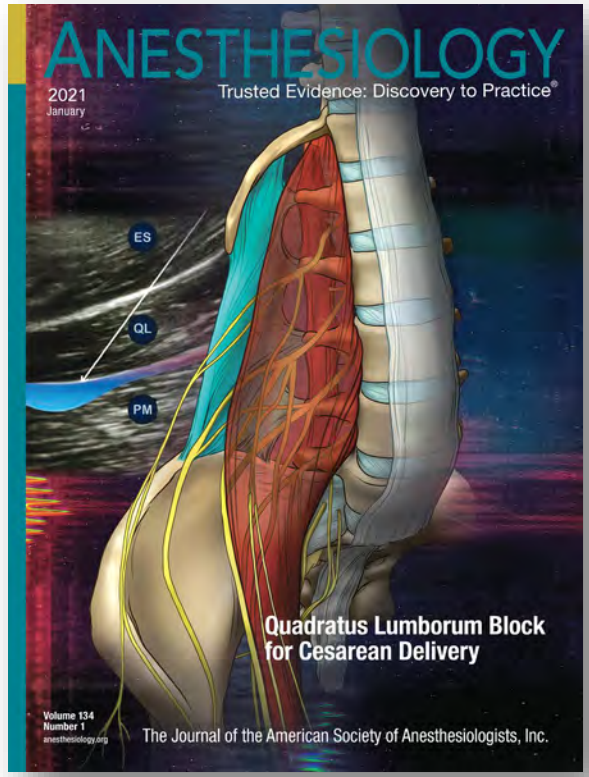
Anesthesiology®

The official peer-reviewed journal of the ASA

The premier peer-reviewed journal in the specialty

- Impact Factor of 6.523
- #1 in anesthesia and pain category
- Highest Impact Factor in Journal's history
- Impact Factor not be-all-and-end-all measure of success, but as Editor-in-Chief Dr. Evan Kharasch says, "if you are going to be ranked, it is nice to be #1."

The #1 most-used ASA member benefit, with a 73% usage rate



ASA's Non-Clinical Research Services

Center for Anesthesia Workforce Studies

- Four national datasets to estimate supply
- Resources to track supply, compensation and education trends
- Anesthesia-related physician group practices

Peer-reviewed articles

- Anesthesia opt-out policy (4)
- Physician group concentration
- Billing modifier QZ
- Perioperative Surgical Home
- Anesthesia Care Team

ASA ANESTHESIA ALMANAC

Regular monitoring of journals for advocacy-relevant articles

Member access to disseminate approved research surveys

Other Clinical Resources

Among the top 10 most-used ASA member resources:

- *ASA Monitor®*
- Standards, Guidelines, Statements and Practice Parameters
- Online CME courses
- Coming soon: Clinical Decision Support Tools

Professional & Career Resources

American Society of Anesthesiologists®

asahq.org

Professional Resources

ASA continues to grow its roster of benefits, products and services aimed at improving your professional performance

- Practice Management resources
- Quality & Registry products
- Group Practice Solutions

Payment and Practice Management: Tools and Resources

ASA Survey Results:
Commercial Fees Paid for Anesthesia Services, 2020

Stanley W. Stead, MD, MBA, FASA Sharon K. Merrick, MS, CCS-P

ASA is pleased to present the annual commercial conversion factor survey for 2020. Each summer we survey anesthesiology practices across the country. We ask them to report up to five of their largest managed care (commercial) contract conversion factors (CF) and the percentage each contract represents of their commercial population, along with some demographic information. Our objectives for the survey are to report to our members the average contractual amounts for the top five contracts and to present a view of regional trends in commercial contracting.

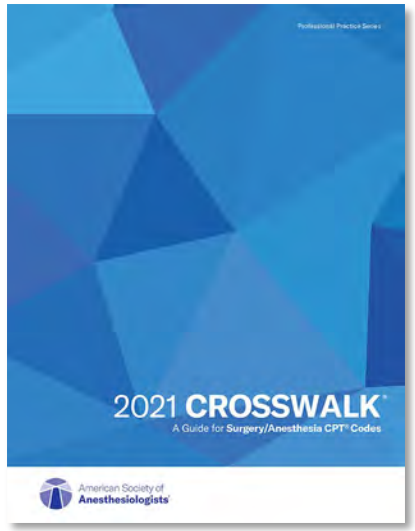
Summary

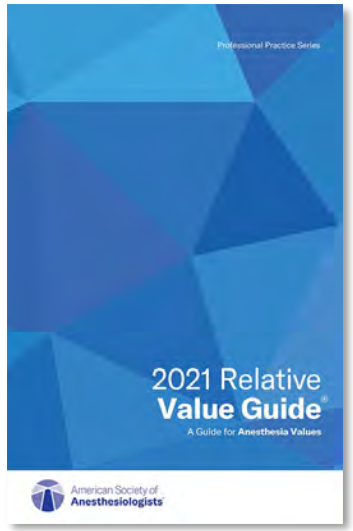
Based on the 2020 survey results, the national average commercial conversion factor was $82.14, ranging between $76.09 and $85.75 for the five contracts. The national median increased to $73.00, ranging between $69.00 and $77.25 for the five contracts (Figure 1, Table 1). In the 2019 survey, the mean conversion factor ranged between $73.79 and $80.76, and the median ranged between $69.00 and $78.00. In contrast, the current national Medicare conversion factor for anesthesia services is $22.2016, or about 27.03% of the

Continued on page 26

American Society of Anesthesiologists

Timely Topics
Payment and Practice Management





Lead the Leader
Leadership Development Suite

Support Resources

- Leadership Assessment Tool
- Coaching/Mentoring Guide committees and editorial boards (NEW)
- Publications Library
  - White Paper
  - Podcast
  - Publications

ASA Collaborative Courses

- Northwestern University Executive Physician Leadership Program (EPLP) I and II
- Leadership Academy (NEW)
- American College of Healthcare Executives (ACHE): Masterclass Series
- Essential Skills Training Resident – Executive Level (NEW)

Podcast Series

ASA's Central Line

- Hosted by Dr. Adam Striker
- Real conversations with peers and leaders, providing insights and personal experiences
- 29 episodes, including COVID themes

Residents in a Room

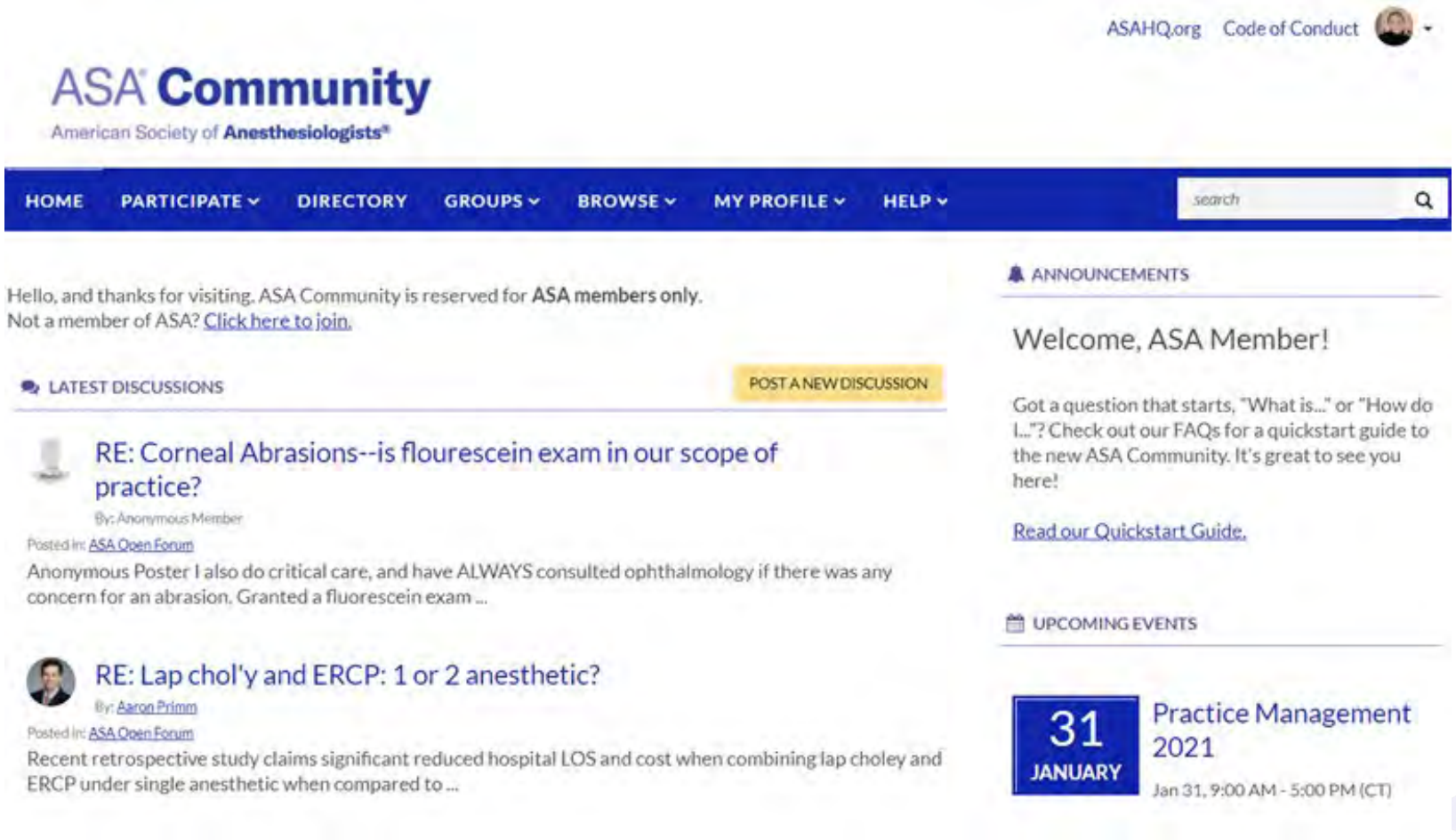
- Candid "fly-on-the-wall" resident conversations about what's keeping them interested or up at night
- 19 episodes
- 12,000+ downloads

asahq.org/podcasts

Introducing ASA Community

New private online forum for conversation, collaboration, and networking among ASA's 50K+ members.

Community.asahq.org



Q&A

Thank You!

American Society of Anesthesiologists®

asahq.org

ENHANCED RECOVERY AFTER SURGERY
Cesarean Delivery – A Review

HEATHER MCKENZIE, MD

NORTHSIDE ANESTHESIOLOGY CONSULTANTS

Disclosures

No financial relationships to disclose

Objectives

Review the necessary components of an ERAS protocol for cesarean delivery

Review the anesthesiologist's part in ERAS

What is ERAS?

ERAS Checklist

List of ERAS cesarean delivery elements:

Preoperative

1. Anesthetic medications
2. Fasting
3. Carbohydrate prophylaxis
4. Antimicrobial prophylaxis
5. Skin wash / vaginal preparation to minimize infectious risk
6. Procedures for prevention of intraoperative hypothermia

Intraoperative

1. Pre- and intraoperative anesthetic management
2. Abdominal/vaginal antimicrobial cleansing
3. Cesarean delivery surgical technique (opening-delivery-closure)
4. Perioperative fluid management
5. Neonatal immediate care/delayed cord clamping

Caughey. ERAS for cesarean delivery. AM J Obstet Gynecol 2018

ERAS Checklist

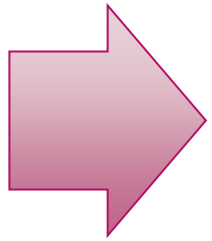
Postoperative

1. ERAS sham feeding/chewing gum
2. Nausea and vomiting management
3. Analgesia
4. Perioperative nutritional care / early feeding
5. Glucose control
6. Thromboembolism prevention
7. Early mobilization
8. Urinary drainage management

Maternal and neonate discharge

Caughey. ERAS for cesarean delivery. AM J Obstet Gynecol 2018

ERAS elements



Quality of Recovery

Quality of Recovery

Presence of Pain
Presence of Nausea/Vomiting
Shivering
Ability to ambulate unassisted
Ability to hold/feed baby without assistance
Ability to care for self

Preoperative Management

- Patient education
  - Clinic visits with obstetrician
  - Consultation with anesthesiologist

Preoperative Management

- Management of Medical conditions
  - Optimization of comorbidities
  - Anemia prevention and treatment

Preoperative Management

- NPO
  - No solid foods for 6-8 hours
  - Clear liquids 2 hours prior to surgery
    - Carbohydrate rich liquids

Preoperative Management

- Preoperative Medications
  - Avoid sedative medications where possible

Intraoperative Management

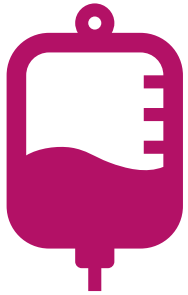
- Anesthetic
- Avoidance of Hypotension/Fluid management
- Antibiotic Prophylaxis
- Prevention of Hypothermia
- N/V Prophylaxis/Treatment
- Uterotonic Administration
- Delayed Cord Clamping/Skin to Skin Contact

Intraoperative Management

Anesthetic

- Neuraxial Anesthesia preferred

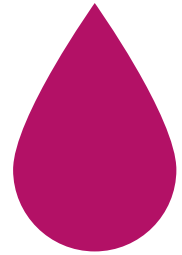
Intraoperative Management



Avoidance of Hypotension

Treat with IV phenylephrine

Intravenous Infusion > boluses



Fluid Management

Avoid fluid overload

Comparison of Commonly Used Vasopressors

	Ephedrine	Phenylephrine	Metaraminol	Noradrenaline	Adrenaline	Mephentermine
Receptor	β1, β2, weak α	α1	α1, weak β	α1, β	α1, β	α1, β
Mechanism	Indirect, weak direct	Direct	Direct and indirect	Direct	Direct	Indirect
Onset	Slow	Immediate	1–2 min	Immediate	Immediate	Immediate
Duration	Prolonged	Intermediate	Prolonged	Short	Short	Prolonged

Kinsella et al. | Consensus statement on management of hypotension during caesarean section
Anaesthesia 2018, 73, 71–92

Intraoperative Management

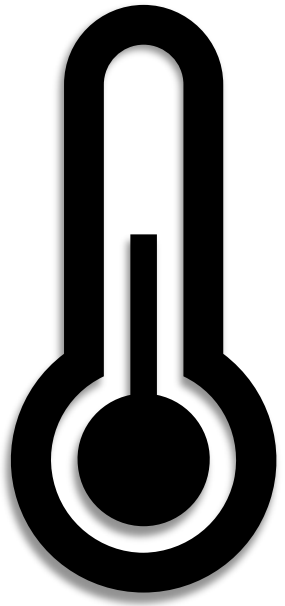
Antibiotic Prophylaxis

- Given 30-60mins prior to skin incision
- Do not delay until after cord clamping

Intraoperative Management

Prevention of Hypothermia

- Monitor temperature
- Prevent with a forced air warmer, warm fluids, and increasing ambient room temperature



Intraoperative Management

N/V Prophylaxis and Treatment

- Avoid Triggers
- Prevent/Treat with at least 2 agents

Intraoperative Management

Uterotonic Administration

- Use lowest effective dose

Uterotonic Administration

Oxytocin

Elective caesarean section	**Intrapartum caesarean section**
Bolus 1 IU oxytocin; start oxytocin infusion at 2.5–7.5 $IU.h^{-1}$ (0.04–0.125 $IU.min^{-1}$).	3 IU oxytocin over ≥ 30 s; start oxytocin infusion at 7.5–15 $IU.h^{-1}$ (0.125–0.25 $IU.min^{-1}$).
If required after 2 min, give a further dose of 3 IU over ≥ 30 s.	
Consider second-line agent early in the event of failure of this regimen to produce sustained uterine tone.	
Review the patient's clinical condition before discontinuing the infusion; this will usually be between 2 h and 4 h after commencement.	

Consensus statement on uterotonic agents during caesarean section. Heesen, et al. Anaesthesia 2019, 74, 1305–1319

Intraoperative Management

- Delayed Cord Clamping
- Skin to Skin Contact

Postoperative Management

- Postoperative Analgesia
- Early Mobilization
- Early Feeding
- Thromboprophylaxis
- Glucose Control
- Early Urinary Catheter Removal

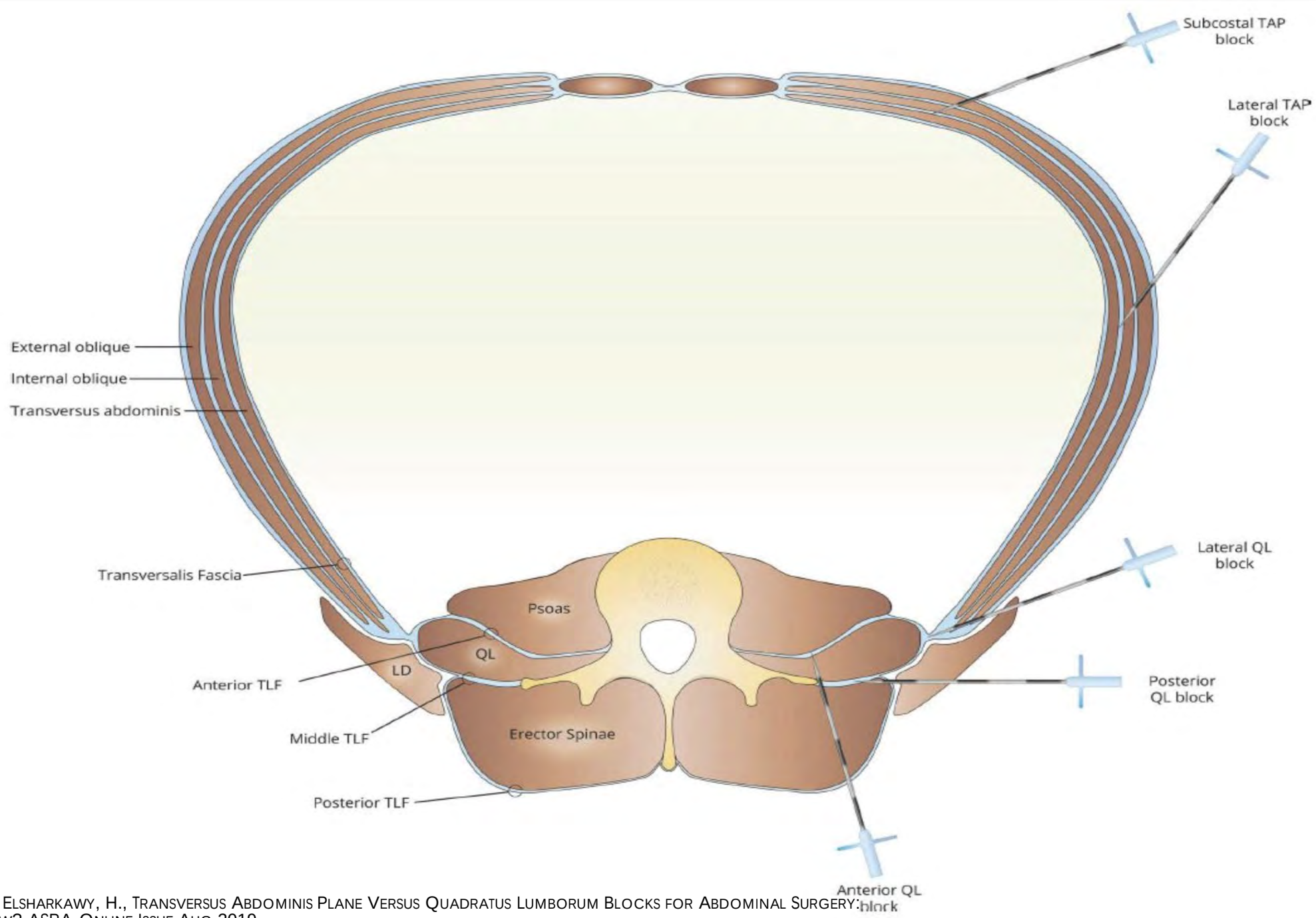
Postoperative Analgesia

Multimodal Analgesia

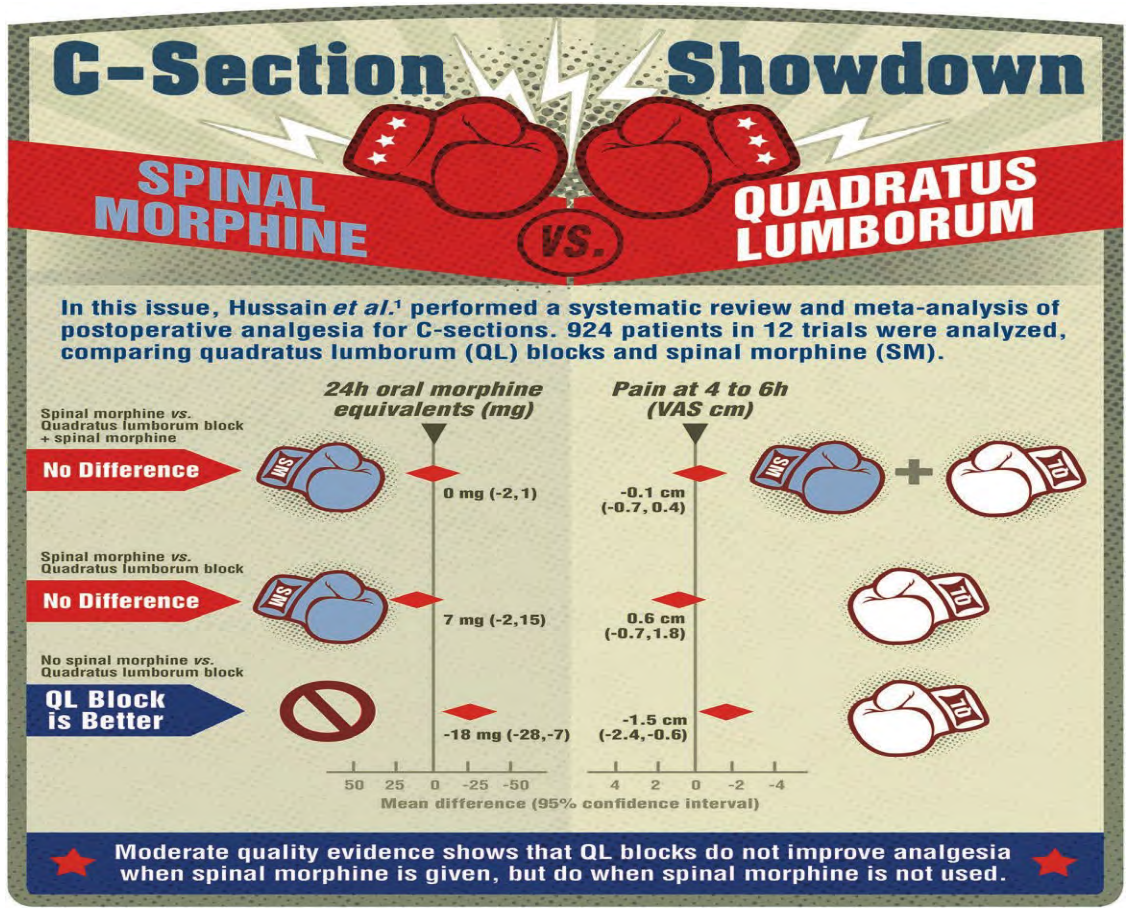
- Intrathecal Morphine
- Acetaminophen
- Ketorolac
- Opioid

Regional Block

- Transverse Abdominis Plane (TAP) Block
- Quadratus Lumborum Block



El-Boghdadly, K., Elsharkawy, H., Transversus Abdominis Plane Versus Quadratus Lumborum Blocks for Abdominal Surgery: Where Are We Now? ASRA-Online Issue Aug 2019.



VAS, visual analog scale.

Infographic created by Jonathan P. Wanderer, Vanderbilt University Medical Center, and James P. Rathmell, Brigham and Women's Health Care/Harvard Medical School.
Illustration by Annemarie Johnson, Vivo Visuals. Address correspondence to Dr. Wanderer: jon.wanderer@vumc.org.

1. Hussain N, Brull R, Weaver T, Zhou M, Essandoh M, Abdallah FW: Postoperative analgesic effectiveness of quadratus lumborum block for cesarean delivery under spinal anesthesia: A systematic review and meta-analysis. ANESTHESIOLOGY 2021; 134:72–87

Postoperative Management

- Early Mobilization
- Early Feeding
- Thromboprophylaxis
- Glucose Control
- Early Urinary Catheter Removal

Summary

- ERAS protocols improve patient outcomes
  - More research on the value of the elements ERAS after cesarean delivery
  - Aims to improve both maternal and neonatal outcomes

- Current ERAS recommendations are based on the best evidence available
- Standout elements
  - Patient Education
  - Modification of NPO Guidelines
  - Neuraxial Anesthesia with Morphine
  - Avoidance of Hypotension
  - Multimodal Analgesia
  - Early Mobilization and Feeding

References

- Baker BW, Villadiego LG, Lake YN, Amin Y, Timmins AE, Swaim LS, et al. Transversus abdominis plane block with liposomal bupivacaine for pain control after cesarean delivery: a retrospective chart review. J Pain Res 2018;11:3109–16.
- Buluc H, Ar AY, Turan G, Karadogan F, Sargin MA, Akgun N. The efficacy of transversus abdominis plane block for post-operative analgesia after the cesarean section performed under general anesthesia. North Clin Istanb. 2019 Mar 10;6(4):368-373.
- Carli F. Physiologic considerations of Enhanced Recovery After Surgery (ERAS) programs: implications of the stress response. Can J Anaesth. 2015;62:110–119.
- Caughey AB, Wood SL, Macones GA, Wrench IJ, Huang J, Norman M, Pettersson K, Fawcett WJ, Shalabi MM, Metcalfe A, Gramlich L, Nelson G, Wilson RD. Guidelines for intraoperative care in cesarean delivery: Enhanced Recovery After Surgery Society Recommendations (Part 2). Am J Obstet Gynecol. 2018 Dec;219(6):533-544.
- Ciechanowicz S, Setty T, Robson E, Sathasivam C, Chazapis M, Dick J, Carvalho B, Sultan P. Development and evaluation of an obstetric quality-of-recovery score (ObsQoR-11) after elective Caesarean delivery. Br J Anaesth. 2019 Jan;122(1):69-78.
- El-Boghdadly, K., Elsharkawy, H., Transversus Abdominis Plane Versus Quadratus Lumborum Blocks for Abdominal Surgery: Where Are We Now? ASRA-Online Issue Aug 2019.
- Heesen, et al. Consensus statement on uterotonic agents during caesarean section. Anaesthesia 2019, 74, 1305–1319
- Hussain N, Brull R, Weaver T, Zhou M, Essandoh M, Abdallah FW. Postoperative Analgesic Effectiveness of Quadratus Lumborum Block for Cesarean Delivery under Spinal Anesthesia. Anesthesiology. 2021 Jan 1;134(1):72-87.
- Ituk U, Habib AS. Enhanced recovery after cesarean delivery. F1000Res. 2018;7:F1000 Faculty Rev-513. Published 2018 Apr 27.
- Jadon A, Jain P, Chakraborty S, Motaka M, Parida SS, Sinha N, Agrawal A, Pati AK. Role of ultrasound guided transversus abdominis plane block as a component of multimodal analgesic regimen for lower segment caesarean section: a randomized double blind clinical study. BMC Anesthesiol. 2018 May 14;18(1):53.
- Kinsella SM, Carvalho B, Dyer RA, Fernando R, McDonnell N, Mercier FJ, Palanisamy A, Sia ATH, Van de Velde M, Vercueil A; Consensus Statement Collaborators. International consensus statement on the management of hypotension with vasopressors during caesarean section under spinal anaesthesia. Anaesthesia. 2018 Jan;73(1):71-92.
- Macones GA, Caughey AB, Wood SL, Wrench IJ, Huang J, Norman M, Pettersson K, Fawcett WJ, Shalabi MM, Metcalfe A, Gramlich L, Nelson G, Wilson RD. Guidelines for postoperative care in cesarean delivery: Enhanced Recovery After Surgery (ERAS) Society recommendations (part 3). Am J Obstet Gynecol. 2019 Sep;221(3):247.
- Mullman L, Hilden P, Goral J, Gwacham N, Tauro C, Spinola K, Rosales K, Collier S, Holmes L, Maccione J, Pitera R, Miller R, Yodice P. Improved Outcomes With an Enhanced Recovery Approach to Cesarean Delivery. Obstet Gynecol. 2020 Oct;136(4):685-691.
- Paton F, Chambers D, Wilson P, et al Effectiveness and implementation of enhanced recovery after surgery programmes: a rapid evidence synthesis BMJ Open 2014;4
- Wilson RD, Caughey AB, Wood SL, Macones GA, Wrench IJ, Huang J, Norman M, Pettersson K, Fawcett WJ, Shalabi MM, Metcalfe A, Gramlich L, Nelson G. Guidelines for Antenatal and Preoperative care in Cesarean Delivery: Enhanced Recovery After Surgery Society Recommendations (Part 1). Am J Obstet Gynecol. 2018 Dec;219(6):523.
- Zakowski M, Tiouririne M, Bhambhani S, Carvalho B. Society for Obstetric Anesthesia and Perinatology: Consensus Statement and Recommendations for Enhanced Recovery After Cesarean. Anesth Analg. 2020 Nov 3.

Thank You

Perioperative Anti-Coagulation ASRA Guidelines with Neuraxial Anesthesia: An Update

Paramvir Singh, MBBS MD MBA
Assistant Professor,
Department of Anesthesiology and Pain Medicine
Augusta University

Overview

- Coagulation
- Classification of Anticoagulants
- Approach Overview
- Risks of Neuraxial Anesthesia
- Individual Drugs
- ASRA guidelines- 4th Edition (2018)

Coagulation

- Process to prevent blood loss in the event of vascular injury
  - Formation of clot or thrombus
- Exposure of endothelial collagen
- Platelet recruitment and adherence
- Coagulation cascade activated
- Thrombin formation
- Fibrinogen and fibrin formation

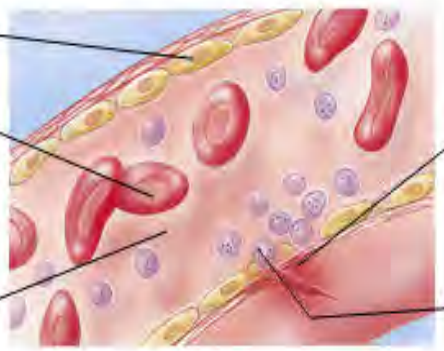
Platelet activation & Aggregration

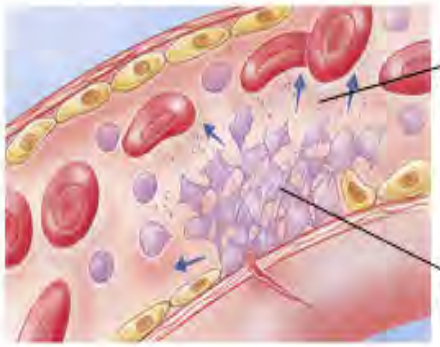
http://www.youtube.com/watch?v=xNZEERMSeyM

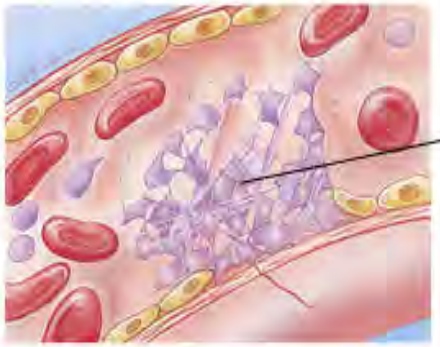
Coagulation Cascade

http://www.hopkinsmedicine.org/hematology/coagulation.swf

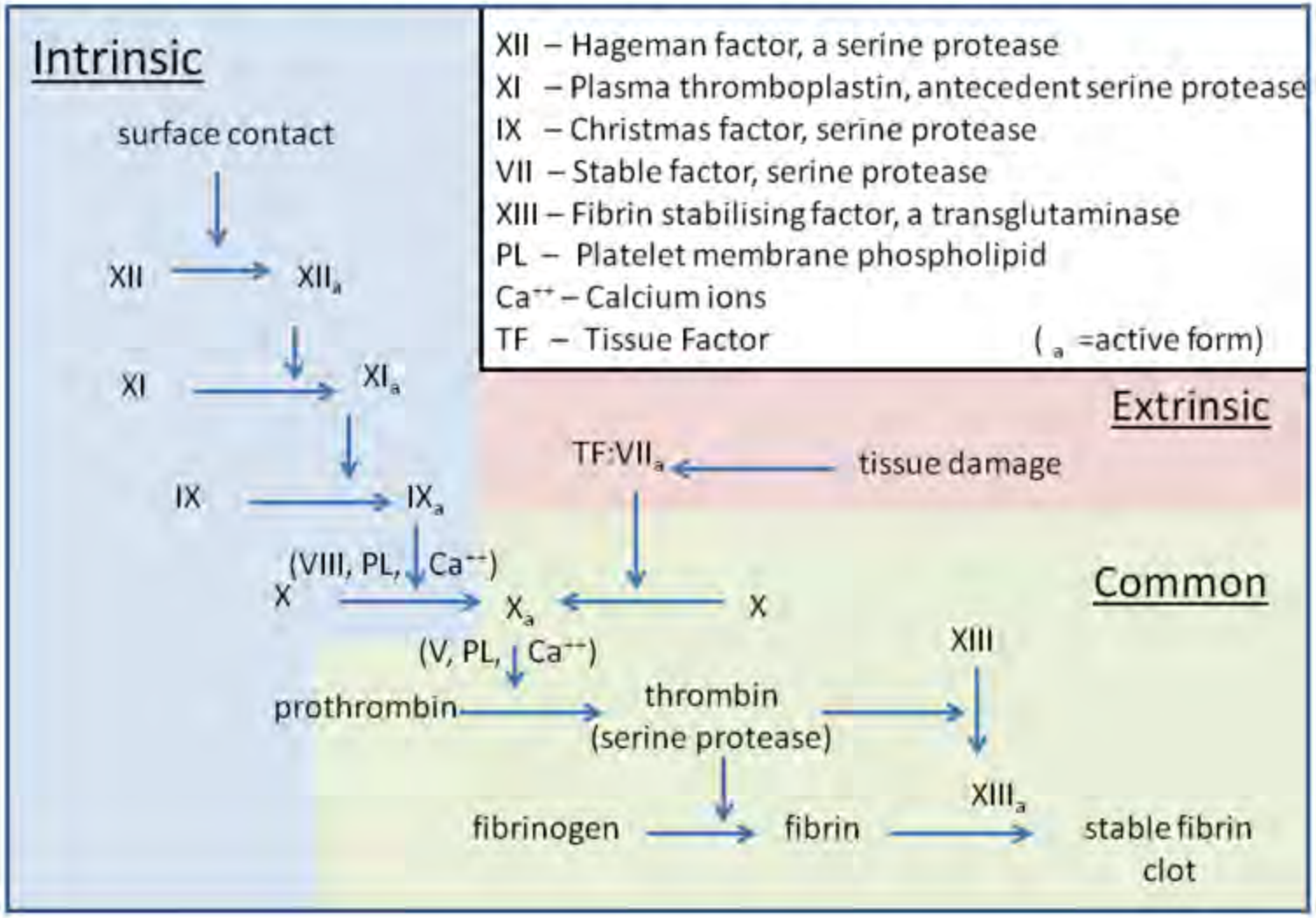
The different steps and components of platelet plug formation in an injured blood vessel





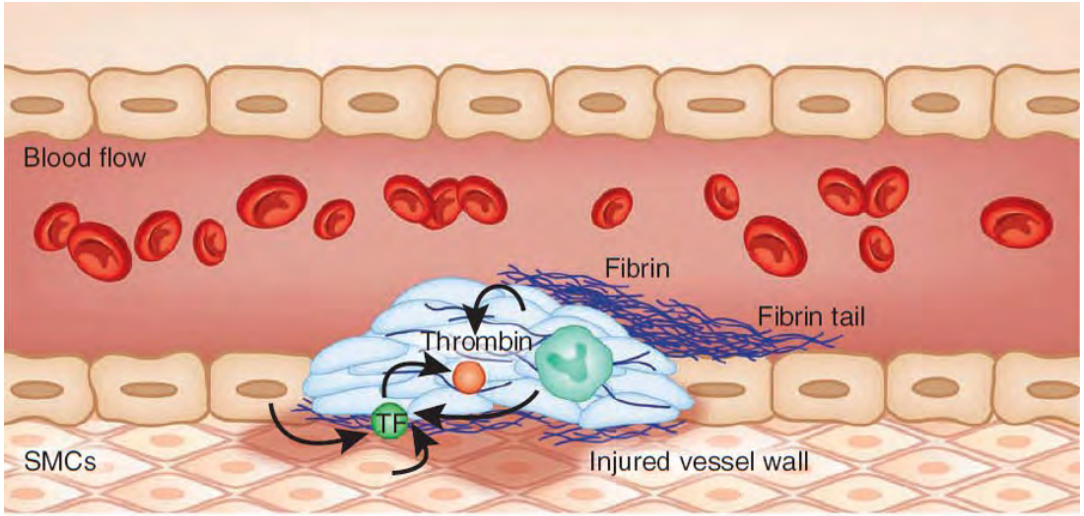


The three pathways that makeup the classical blood coagulation pathway



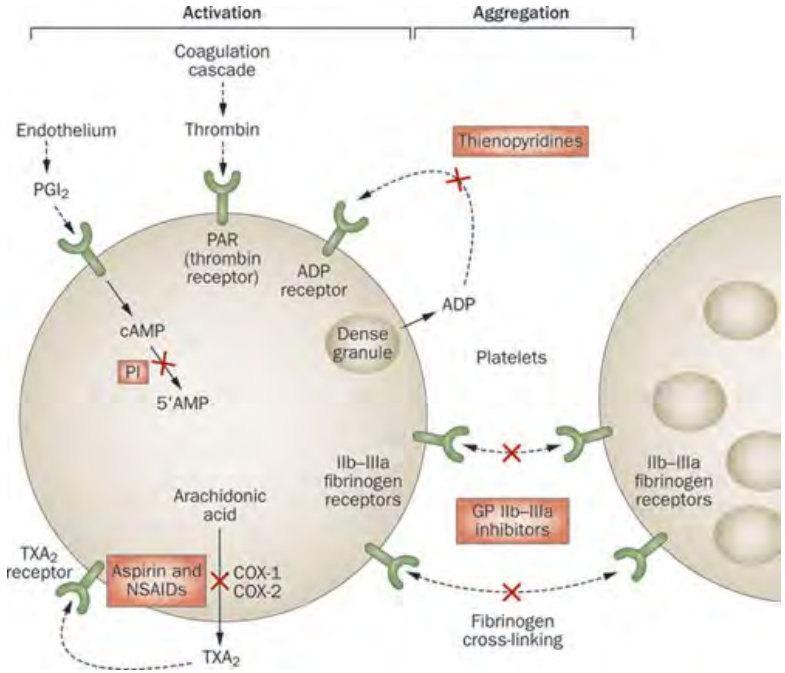
Anticoagulants

- Prevention of clot or thrombus formation
  - Prevent platelet activation or adherence
  - Inhibit the coagulation cascade
  - Anti-thrombin agents



Classification of Anticoagulants

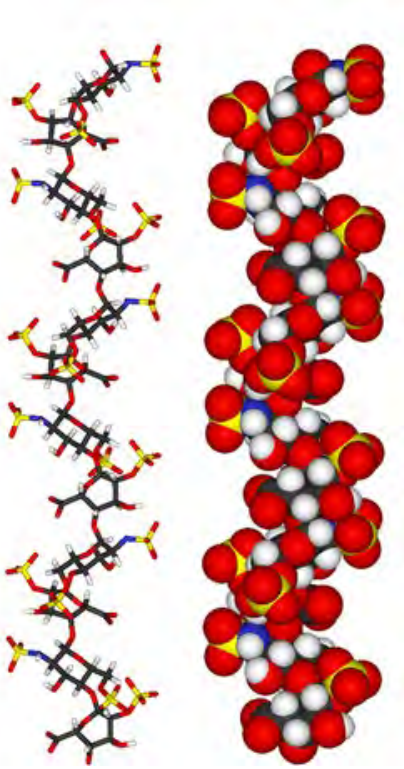
- Anti-platelet activators (e.g. ASA)
- ADP receptor blockers (e.g. Plavix, Thienopyridine)
- Glycoprotein IIb/IIIa inhibitors (e.g. integrilin)



Classification of Anticoagulants

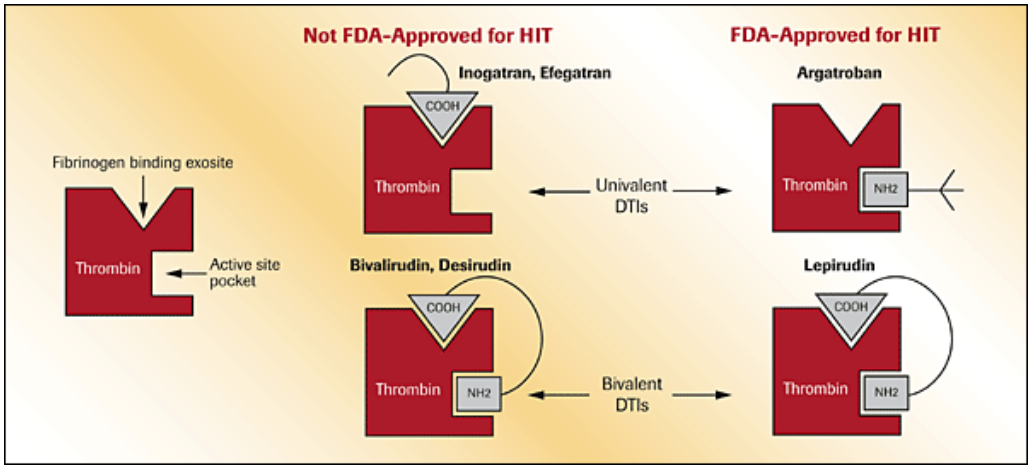
- Heparins – Anti-thrombin activation
  - Unfractionated (UFH)
  - Fractionated (LMWH)

- Warfarin – Prevents formation of Vit K dependent factors
  - II, VII, IX, and X



Classification of Anticoagulants

- AT-III dependent Factor Xa Inhibitors
  - (e.g Arixtra, Xarelto)
- Direct Thrombin Inhibitors
  - (e.g Pradaxa, Agratroban)



?

Anticoagulants must be ceased, or their doses reduced substantially, prior to performing any interventional spine procedures.

Approach Overview

- Estimate thromboembolic risk
- Estimate bleeding risk
- Determine the timing of anticoagulant interruption
- Determine whether to use bridging anticoagulation

Estimate Thromboembolic Risk

- **Atrial fibrillation** — Atrial fibrillation accounts for the highest percentage of patients for whom perioperative anticoagulation questions arise.
- CHA_2DS_2-VASc score
- Use of risk scores has not been prospectively validated in the perioperative setting.

Clinical risk factors for stroke, transient ischemic attack, and systemic embolism in the CHA_2DS_2-VASc score

(A) The risk factor-based approach expressed as a point based scoring system, with the acronym CHA_2DS_2-VASc (NOTE: maximum score is 9 since age may contribute 0, 1, or 2 points)

CHA_2DS_2-VASc risk factor	Points
Congestive heart failure Signs/symptoms of heart failure or objective evidence of reduced left ventricular ejection fraction	+1
Hypertension Resting blood pressure >140/90 mmHg on at least two occasions or current antihypertensive treatment	+1
Age 75 years or older	+2
Diabetes mellitus Fasting glucose >125 mg/dL (7 mmol/L) or treatment with oral hypoglycemic agent and/or insulin	+1
Previous stroke, transient ischamic attack, or thromboembolism	+2
Vascular disease Previous myocardial infarction, peripheral artery disease, or aortic plaque	+1
Age 65-74 years	+1
Sex category (female)	+1

Perioperative thrombotic risk

Risk stratum	Indication for anticoagulant therapy		
	Mechanical heart valve	**Atrial fibrillation**	**VTE**
Very high thrombotic risk*	Any mitral valve prosthesis Any caged-ball or tilting disc aortic valve prosthesis Recent (within six months) stroke or transient ischemic attack	CHA_2DS_2-VASc score of ≥6 (or $CHADS_2$ score of 5-6) Recent (within three months) stroke or transient ischemic attack Rheumatic valvular heart disease	Recent (within three months) VTE Severe thrombophilia (eg, deficiency of protein C, protein S, or antithrombin; antiphospholipid antibodies; multiple abnormalities)
High thrombotic risk	Bileaflet aortic valve prosthesis and one or more of the of following risk factors: atrial fibrillation, prior stroke or transient ischemic attack, hypertension, diabetes, congestive heart failure, age >75 years	CHA_2DS_2-VASc score of 4-5 or $CHADS_2$ score of 3-4	VTE within the past 3 to 12 months Nonsevere thrombophilia (eg, heterozygous factor V Leiden or prothrombin gene mutation) Recurrent VTE Active cancer (treated within six months or palliative)
Moderate thrombotic risk	Bileaflet aortic valve prosthesis without atrial fibrillation and no other risk factors for stroke	CHA_2DS_2-VASc score of 2-3 or $CHADS_2$ score of 0-2 (assuming no prior stroke or transient ischemic attack)	VTE >12 months previous and no other risk factors

The magnitude of this issue was illustrated in three large trials:

- RE-LY (**R**andomized **E**valuation of **L**ong-Term Anticoagulant Therap**y**)- no differences in thromboembolic risk with dabigatran versus warfarin, urgent surgery associated with a higher risk of ischemic stroke or systemic embolism than elective surgery
- ROCKET AF (**R**ivaroxaban **O**nce daily, oral direct factor Xa inhibition **C**ompared with vitamin **K** antagonism for prevention of stroke and **E**mbolism **T**rial in **A**trial **F**ibrillation)- thromboembolic risk during anticoagulant interruption was similar for rivaroxaban and warfarin (0.3 and 0.4 percent).
- ARISTOTLE (**A**pixaban for **R**eduction **i**n **St**roke and **O**ther **T**hromoboembolic **E**vents in Atrial Fibrillation)- perioperative thromboembolic risk was 0.57 percent for warfarin and 0.35 percent for apixaban

Estimate Bleeding Risk

- Bleeding risk is dominated by the type and urgency of surgery
- Some patient comorbidities also contribute.
- Procedures with a low bleeding risk (eg, dental extractions, minor skin surgery) often can be performed without interruption of anticoagulation.

Determine the Timing of Anticoagulant Interruption

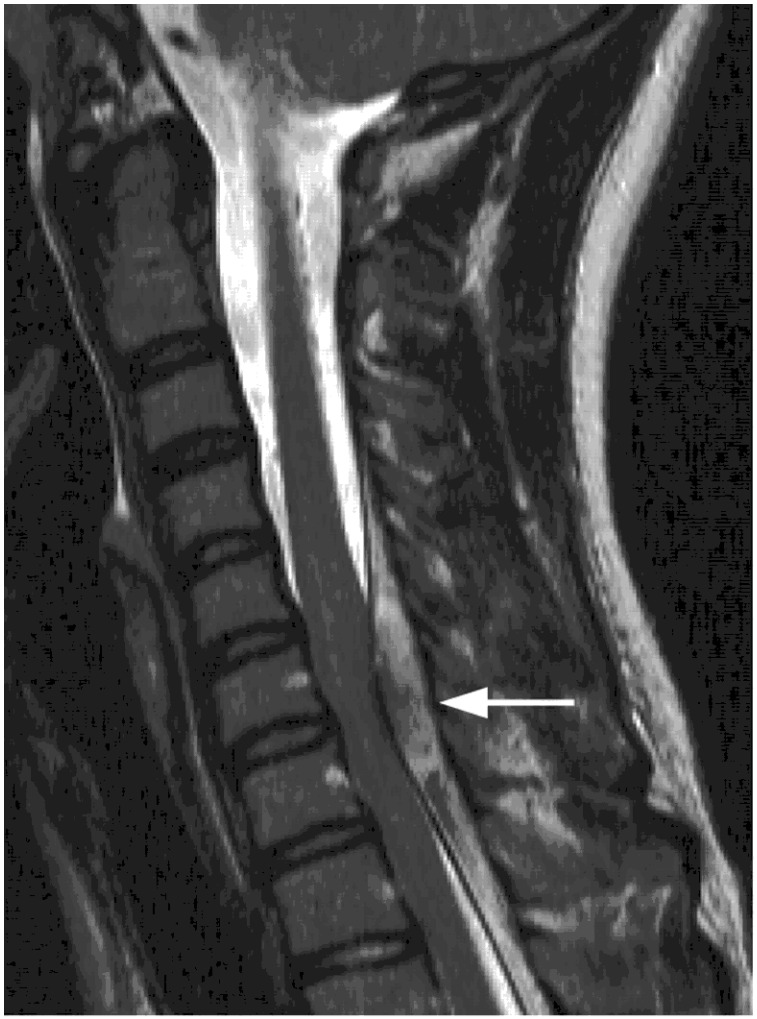
- Timing of anticoagulant interruption depends on the specific agent the patient is receiving.
- Additional considerations with reduced renal and/or hepatic function.

Determine Whether to Use Bridging Anticoagulation

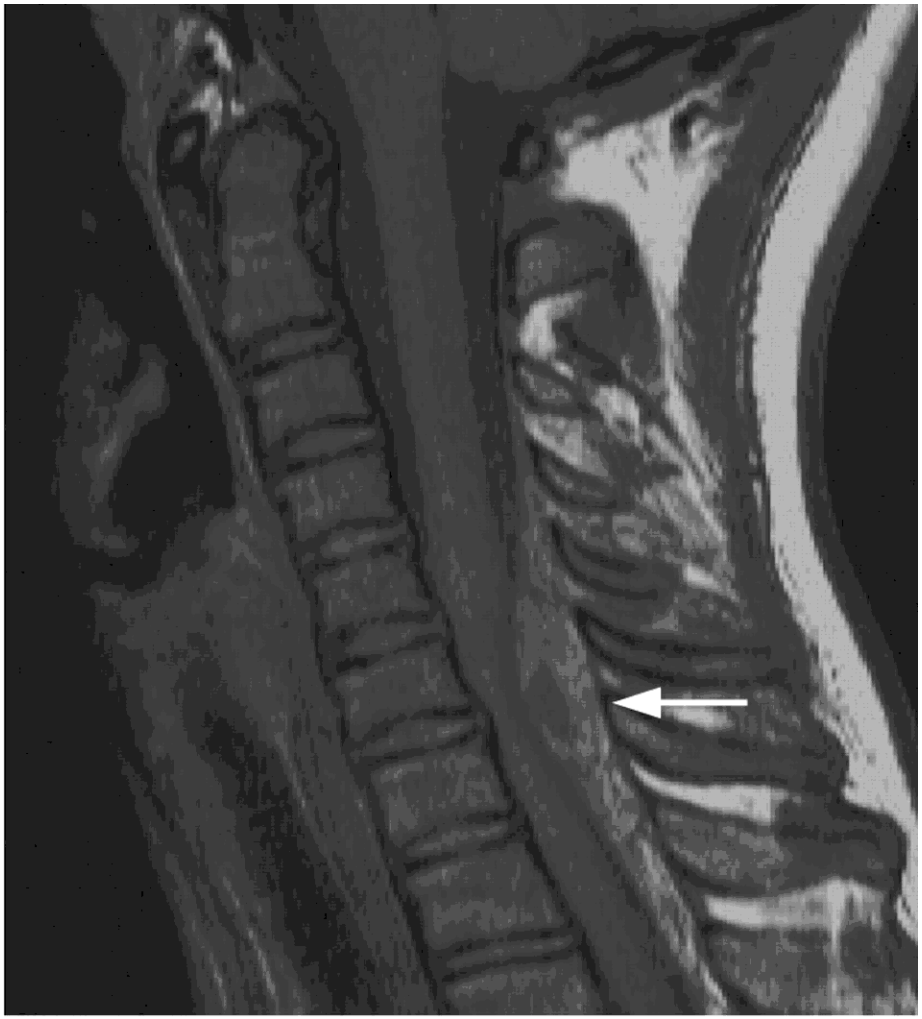
- For most patients, no bridging is necessary
- Patients on warfarin with an especially high thromboembolic risk (e.g. mechanical heart valve, recent stroke) may benefit from bridging with heparin or low molecular weight (LMW) heparin.

Risks of Neuroaxial Anesthesia

- Epidural hematoma formation
  - 1 in 150,000 to 220,000 in healthy patients
    - New studies suggest 1 in 2700 – 19505
  - Incidence with anticoagulation therapy
    - 1 in 40,800 – spinal anesthesia
    - 1 in 6,600 – single shot epidural
    - 1 in 3,100 – continuous epidural
- Results vary



A



B

Antiplatelets

Aspirin

Spirea Ulmiria

Indications:

-Multiple : Stroke/TIA, prosthetic HV, CABG, PCI

Manufacturer boxed warning: Use with caution hepatic and renal impairment. Contra indicated in inherited or acquired bleeding disorders.

Clinical Pharmacology

MOA: irreversible binding of COX 1/2, decreased production of throboxaneA2, reduced platelet aggregation, anitipyretic, and analgesic

- Peak serum Conc: 1-2 hrs
- Metabolism: Hydrolized to salicylate in GI mucosa, synovial fluid, RBCs and blood, Salicylate conjugated in liver, ½ life (3 hrs 300-600 mg doses), (5-6 hrs, > 1 gm)
- Pregancy: low dose to treat medical conditons OK, discontinue close to delivery, enters breast milk
- Renal Impairment: avoid use in Cr < 10 ml/min
- Hepatic Impairment: Avoid use in severe hepatic disease
- No specific recommendation (Grade 1A)- ASRA 2018

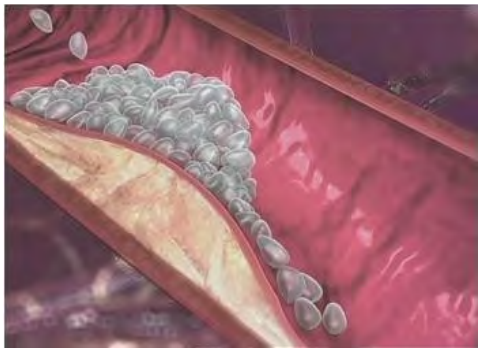
NSAIDs

- Reversible inhibition of COX 1 and 2
- No change in platelet function with COX-2 inhibitors
- No current recommendation to hold (Grade 1A)- ASRA 2018

American Society of Regional Anesthesia and Pain Medicine (ASRA) 2018

- No specific recommendations (Grade 1A)
- Caution with concurrent anticoagulant, UFH, LMWH (Grade 2C)

Clopidrogel (Plavix)



Indications:

- Recent MI, recent stroke, or established peripheral arterial disease
- Acute Coronary syndrome , A fib, Symptomatic carotid artery stenosis
- Established CAD
- Peripheral artery percutaneous transluminal angioplasty (with or without stenting)
- Prevention of CABG closure
- Secondary prevention of cardioembolic stroke

Manufacturer boxed warning: Clopidogrel increases the risk of bleeding, Post stent population-premature discontinuation can result in CA thrombosis

Clinical Pharmacology

MOA: ADP receptor inhibition, Prevents fibrinogen fixation and platelet cross-linking

Peak serum Conc. 0.75 hrs, Time to maximal inhibition of platelet aggregration is dose dependent:300 – 600 mg (6hrs), 50-100 mg (5-7 days)

Metabolism: Cytochrome p450 (2C19-major, 3A4-minor), Concurrent PPI reduces active metabolite, parent drug ½ life 6 hrs , active metabolite ~ 30mi

Pregnancy: B, unknown not rec in nursing mothers

Renal impairment: No adjustment needed Hepatic impairment: Use with caution, limited experience

Ticlopidine (Ticlid):

Indications:

- Stroke prevention

- Coronary artery stenting

Manufacturer boxed warning: Avoid use in elderly, Post stent population premature discontinuation can result in CA thrombosis

Clinical Pharmacology

MOA: ADP receptor inhibition, prevents GPIIb/IIIa activation and platelet aggregration

Peak serum Conc. 2 hrs, Time to maximal inhibition of platelet aggregration (3-5 days)

Metabolism: Cytochrome p450 (3A4-minor), ½ life 13 hrs

Pregnancy: B, unknown not rec in nursing mothers

Renal impairment: No adjustment needed

Hepatic impairment: Use with caution, no specific guidelines

American Society of Regional Anesthesia and Pain Medicine (ASRA) 2018

- 5-7 days after last dose (Plavix) (Grade 1C)
- 10 days after last dose (Ticlid) (Grade 1C)
- May resume 24 hours postoperatively (Grade 2C)
- May keep neuraxial catheter for 1-2 days due to prolonged onset if no loading dose given (Grade 2C)
- May resume immediately after catheter removal if no lading dose (Grade 2C), wait 6 hours after catheter removal if loading dose given (Grade 2C)

ReoPro (abcixmab): EliLily

Indications:

- PCI

- UA/NSTEMI unresponsive to conventional medical therapy and planned PCI in 24hrs

- STEMI with planned PCI in 24hrs

Manufacturer boxed warning:. Should be avoided 6 weeks prior to surgery. When attempting IVs avoid non-compressible sites

Clinical Pharmacology

MOA: chimeric murine-human Ab, binds platelets IIb/IIIa receptors, steric hindrance to aggregration

Time to peak platelet inhibition is 30 minutes

Metabolism: Unbound drug in plasma proteolytic cleavage, platelet function remain abnormal for up to 7 days, ½ life 30 min in plasma, 4 hrs for GPIIb/IIIa dissociation.

Pregancy: C, unknown if found in breast milk

Integrilin (eptifibatide): Merck

Indications:

- PCI w or w/o stenting

- ACS

Manufacturer boxed warning: Should be avoided 6 weeks prior to surgery. Contraindicated with prior bleeding within 30 days

Clinical Pharmacology

MOA: heptapeptide which blocks platelet GP IIb/IIIa receptor, prevents aggregration

Platelet function restored post 4hrs discontinuation

Metabolism: excreted primarily via urine as metabolites , ½ life 2.5 hrs

Pregancy: B, unknown if found in breast milk

Aggrastat (tirofiban): Baxter

Indications:

- PCI

- UA/NSTEMI

Manufacturer boxed warning: Should be avoided 4 weeks prior to surgery. Contraindicated with prior bleeding within 30 days

Clinical Pharmacology

MOA: reversible antagonist to fibrinogen binding to GP IIb/IIIa

Peak action: > 90% inhibition is attained at the end of 30 min infusion

Metabolism: minimal hepatic, excreted primarily via urine (65%) and feces (25%), ½ life 2 hrs,

Pregancy: B, unknown if found in breast milk

Renal Impairment: Cr < 30ml/min = reduce by 50%

American Society of Regional Anesthesia and Pain Medicine (ASRA) 2018

- Avoid Neuroaxial techniques 24-48 hrs last dose (abciximab), 4-8 hrs (Integrilin and Aggrastat)

Pletal (Cilostazol)

Indications:

- PCI

- intermittent Claudication

- 2nd prevent of non-cardioembolic stroke

Manufacturer boxed warning:. Contraindicated in heart failure, can cause leukopenia and thrombocytopenia

Clinical Pharmacology

MOA: inhibitor of phosphodiesterase III, and increase cAMP, inhibit platelet aggregation.

Time to effect: 2-4 weeks

Metabolism: Hepatic cytochrome p450, 2C19 (omeprazole), 3A4 (ketocanazole) decrease dose, ½ life 11-13 hrs

Pregancy: C, unknown if found in breast milk

Use with caution in hepatic and renal impairment

Prasugrel (Effient)

- New thienopyridine
- Prodrug
- Very rapid onset compared to Plavix

American Society of Regional Anesthesia and Pain Medicine (ASRA) 2018

- Stop 2 days prior to neuraxial with Pletal (Grade 2C). Avoid indwelling catheter with active therapy (Grade 2C).
- Stop 7-10 days prior to neuraxial with Prasugrel (Grade 1C). May resume 24 hours postoperatively (Grade 1A). Avoid indwelling catheter with active therapy. (Grade 2C)

Anticoagulants

Unfractionated Heparin

Indications:

- PCI w or w/o stenting

- Acute coronary syndrome

- Thromboprophylaxis, treatment of DVT/PE, parenteral nutrition, intermittent anticoagulation

Manufacturer boxed warning: bleeding risk, monitor post invasive procedure

Clinical Pharmacology

MOA: pentasaccharide binds to AT and potentiates action on thrombin (IIa), factor Xa, IXa, I, XII and plasmin. Prevents fibrinogen to fibrin

Monitored by aPTT and Xa activity, reversed by protamine (100:1)

IV immediate effect, SQ 1-2 hrs delayed effect

Metabolism: hepatic , ½ life dose dependent Mean 1-2 hrs

Pregancy: C, does not enter breast milk

No dosage adjustment needed in renal or hepatic impairment

American Society of Regional Anesthesia and Pain Medicine (ASRA) 2018

Subcutaneous:

Low dose- 4-6 hours, No CI with catheters, wait 4-6 hours after dose to remove catheter, may administer dose after 1 hour of catheter removal.

High dose- 12 hours, evaluate risk benefits for catheter, wait 4-6 hours after dose to remove catheter, may administer dose after 1 hour of catheter removal.

American Society of Regional Anesthesia and Pain Medicine (ASRA) 2018

Intravenous

- Discontinue infusion 4-6 hours and verify normalized anticoagulation, delay heparinization for 1 hour after catheter placement, remove catheter 4-6 hours after last heparin dose and normalized coagulation, may administer next dose 1 hour after catheter removal (Grade 1A)
- Assess platelet count prior to placement of neuraxial injection or catheter if receiveing heparin >4 days (Grade 1C)

Low molecular Weight Heparin (Enoxaparin)

Indications:

- PCI w or w/o stenting

- Acute coronary syndrome (UA/ NSTEMI and STEMI)

- Thromboprophylaxis, treatment of DVT/PE

Manufacturer boxed warning: bleeding risk, monitor post invasive procedure, use with caution in renal impairment

Clinical Pharmacology

MOA: binds to AT and potentiates inhibitory action on factor Xa. Prevents fibrinogen to fibrin.

Monitored by anti-Xa, platelets occult blood, not reversed by protamine

SubQ: peak anti- Xa activity, 3-5 hrs, can last up to 12 hrs

Metabolism: hepatic , ½ life dose independent Mean 4.5 -7 hrs,

Pregancy: B, unknown if enters breast milk

Plasma half life increases in renal impairment

American Society of Regional Anesthesia and Pain Medicine (ASRA) 2018

Prophylactic dosing:

Placement after 12 hours, delay heparinization for 12 hours after catheter placement, remove catheter 12 hours after last heparin dose, may administer next dose 4 hours after catheter removal (Grade 1C)

For prophylactic BID dosing, indwelling catheters should be removed prior to initiation of therapy (Grade 1C).

American Society of Regional Anesthesia and Pain Medicine (ASRA) 2018

Therapeutic dosing:

Placement after 24 hours, delay heparinization for 24 hours after catheter placement, remove catheter 4 hours prior to first dose or 24 hours after placement, may administer next dose 4 hours after catheter removal (Grade 1C)

May consider checking anti- factor Xa level if receiving higher dose in elderly or those with renal insufficiency (Grade 2C)

Coumadin (warfarin):Bristol Myer Squibb

Indications:

Prophylaxis and treatment DVT, PE, thromboembolic events associated with afib or valve replacement afib

Reduction in the risk of death associated with recurrent MI or thromboembolic events

Manufacturer contraindication in spinal procedures

Clinical Pharmacology

MOA: (-) synthesis of vit K dependent factors (II, VII, IX, X, protein C and S)

Peak serum Conc. 4hrs, anticoagulant effect within 24hrs, max effectiveness 72-96 hrs, effective ½ life 40hrs

Metabolism: almost entirely by CYP450 system (2C9m, 2C19, 2C8, 2C18, 1A2, 3A4), 92% excreted in urine

Pregnancy: X in all pregnant, not found in breast milk

No adjustment needed with Renal impairment

Extreme Caution in hepatic impairment

American Society of Regional Anesthesia and Pain Medicine (ASRA) 2018

- Discontinue at least 5 days and normalization of INR (Grade 1B).
- Monitor INR daily if low dose therapy given with indwelling catheter (Grade 2C)
- INR below 1.5 prior to neuraxial catheter removal

American College of Chest Physicians (ACCP)

Preoperative

- Discontinue warfarin at least 5 d before elective procedure*
- Assess INR 1 to 2 d before surgery, if >1.5, consider 1–2 mg of oral vitamin K
- Reversal for urgent surgery/procedure, consider 2.5–5 mg of oral or intravenous vitamin K; for immediate reversal, consider fresh-frozen plasma
- Patients at high risk for thromboembolism
  - Bridge with therapeutic subcutaneous LMWH (preferred) or intravenous UFH
  - Last dose of preoperative LMWH administered 24 hrs before surgery, administer half of the daily dose
  - Intravenous heparin discontinued 4 hrs before surgery
- No bridging necessary for patients at low risk for thromboembolism

Postoperative

- Patients at low risk for thromboembolism
  - Resume warfarin on postoperative day
- Patients at high risk for thromboembolism (who received preoperative bridging therapy)
  - Minor surgical procedure—resume therapeutic LMWH 24 hrs postoperatively
  - Major surgical procedure—resume therapeutic LMWH 48–72 hrs postoperatively or administer low-dose LMWH
- Assess bleeding risk and adequacy of hemostasis when considering timing of the resumption of LMWH or UFH therapy

Recommendations from Douketis et al.[29]

*Not all invasive procedures/surgeries require normalization of the INR.

Fondaparinux (Arixtra):GlaxoSmithKline

Indications:

- Treatment of acute DVT and PE

- Prophylaxis of DVT

Manufacturer boxed warning: Spinal/Epidural Hematoma

Clinical Pharmacology

MOA: decrease Factor Xa activity by binding to antithrombin III and↑ its activity, inhibits thrombin formation

Peak serum Conc. 2hrs, 100% bioavailability with SubQm ½ life 17-21 hrs

Metabolism:majority eliminated unchanged in urine

Pregnancy: B, not found in breast milk

Renal impairment: elimination is prolonged: dosage adjustment rec

Hepatic impairment: Dosage adjustment not rec, increased risk of hemorrhage observed in moderate (Child-Pugh B) hepatic impairment

American Society of Regional Anesthesia and Pain Medicine (ASRA) 2018

- Do not place with active therapy
- Next dose administration after placement of single needle pass without indwelling catheter is 6 hours (Grade 1C)
- Avoid indwelling catheter with active therapy

Xarelto (Rivaroxaban):Janssen Pharmaceuticals

Indications:

-Reduction in the risk of stroke and systemic embolism

in nonvalvular afib

-DVT prophylaxis in patients undergoing knee/hip

replacement

Manufacturer boxed warning: Spinal/Epidural Hematoma, Increased risk of stroke with discontinuation

Clinical Pharmacology

MOA: (-) factor Xa activity

Peak serum Conc. 2-4hrs, terminal ½ life 5 - 9 hrs

Metabolism: oxidative transformation by CYP450 system (3A4, 3A5, 2J2)
66% excreted in urine, 28% in feces

Pregancy: C, unknown if found in breast milk

Renal impairment: adjustmenet

Avoid use in moderate to severe hepatic impairment

American Society of Regional Anesthesia and Pain Medicine (ASRA) 2018

- Last dose and neuraxial- 72 hours (Grade 2C)
- May consider rivaroxaban or anti- factor Xa levels (Grade 2C)
- Avoid indwelling catheters with active therapy

Pradaxa (Dabigatran)

Indications:

-Reduction in the risk of stroke and systemic embolism

in nonvalvular afib

-Post operative thromboprophyalxis

Manufacturer boxed warning: bleeding hold 1-2 days (>50 ml/min)crcl and 3-5 days (< 50 ml/min crcl), Increased risk of stroke with discontinuation

Clinical Pharmacology

MOA: prodrug, activated invivo, direct thrombin inhibitor

Peak serum Conc. 1 hr

Metabolism: hepatic gluconoridation, 80% excreted in urine

Pregancy: C, unknown if found in breast milk

Renal impairment: adjustment needed, prolonged activity

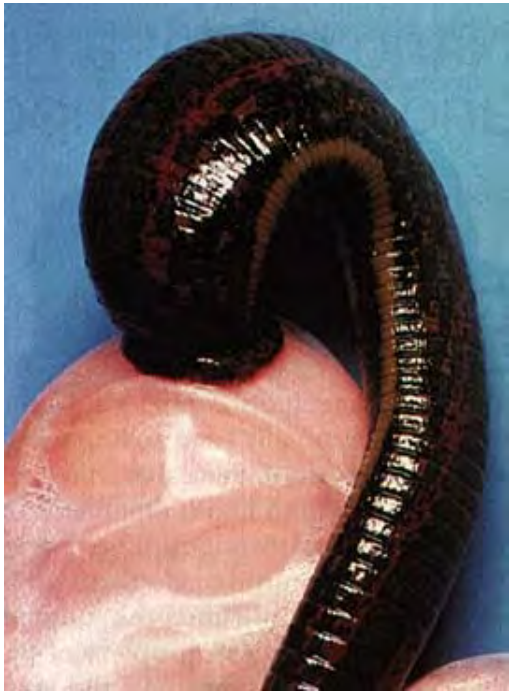
Avoid use severe hepatic impairment

American Society of Regional Anesthesia and Pain Medicine (ASRA) 2018

- Last dose and neuraxial- 72 hrs (CrCl>80mL/m)
  96 hrs (CrCl- 50-79mL/min)
  120hrs (CrCl- 30-49mL/min)
- Avoid indwelling catheters with active therapy

Desirudin and Lepirudin

- DVT Prophylaxis
- Boxed warning for spinal hematoma in neuroaxial procedures
- Direct thrombin inhibitors
- Greatly prolonged in renal impairment
- 8 -10 hours in normal patients
  - Check PTT if questionable
  - < 40 sec



Argatroban

- Prevention of thrombosis in HIT
- Direct thrombin inhibitor
- Hepatic clearance
  - No change in dosing or elimination half life with strict renal impairment
- Usually given by infusion
  - Hold for 2 – 4 hours
  - Check PTT

SSRIs

- Deplete serotonin in platelets
- Questionable increase in bleeding tendency
- Likely increase bleeding risk in combination

- No current recommendations

Garlic

- Dose dependent reduction of platelet aggregation
- No study has shown consistent inhibition
- Hold for 7 days

- Single case study of spontaneous epidural hematoma
  - 80 y/o female, very heavy use

Ginko

- Decreases platelet activating factor
- Increased risk of bleeding in combination of platelet aggregation inhibitors
- Hold for 36 hours

- Single case series of spontaneous intracranial hemorrhage

Ginseng

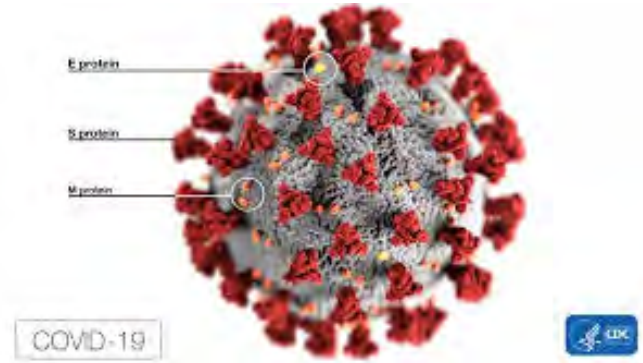
- Unknown sites of action
- Decreases platelet aggregation and prolongs PT/PTT
- ? Decrease effect of Warfarin
- 24 hours

Thanks

COVID 19

- Douglas Olson II, MD FACEP
- Medical Director
- Northside Hospital Forsyth Emergency Department
- Phoenix Air Group Medical Division

- **Common human coronaviruses**
  - 229E (alpha coronavirus)
  - NL63 (alpha coronavirus)
  - OC43 (beta coronavirus)
  - HKU1 (beta coronavirus)



- **Other human coronaviruses**
  - MERS-CoV (the beta coronavirus that causes Middle East Respiratory Syndrome, or MERS)
  - SARS-CoV (the beta coronavirus that causes severe acute respiratory syndrome, or SARS)
  - SARS-CoV-2 (the novel coronavirus that causes coronavirus disease 2019, or COVID-19)

The Warning Shot

- 12/1/2019
  - Wuhan, China
  - Index patient
- 12/30/2019
  - Identified as coronavirus from bronchial washings
  - Wuhan
- 1/13/2020
  - Thailand
- 1/16/2020
  - Japan
- 1/20/2020
  - South Korea/US

Pitfalls

LACK OF TESTING CAPABILITY

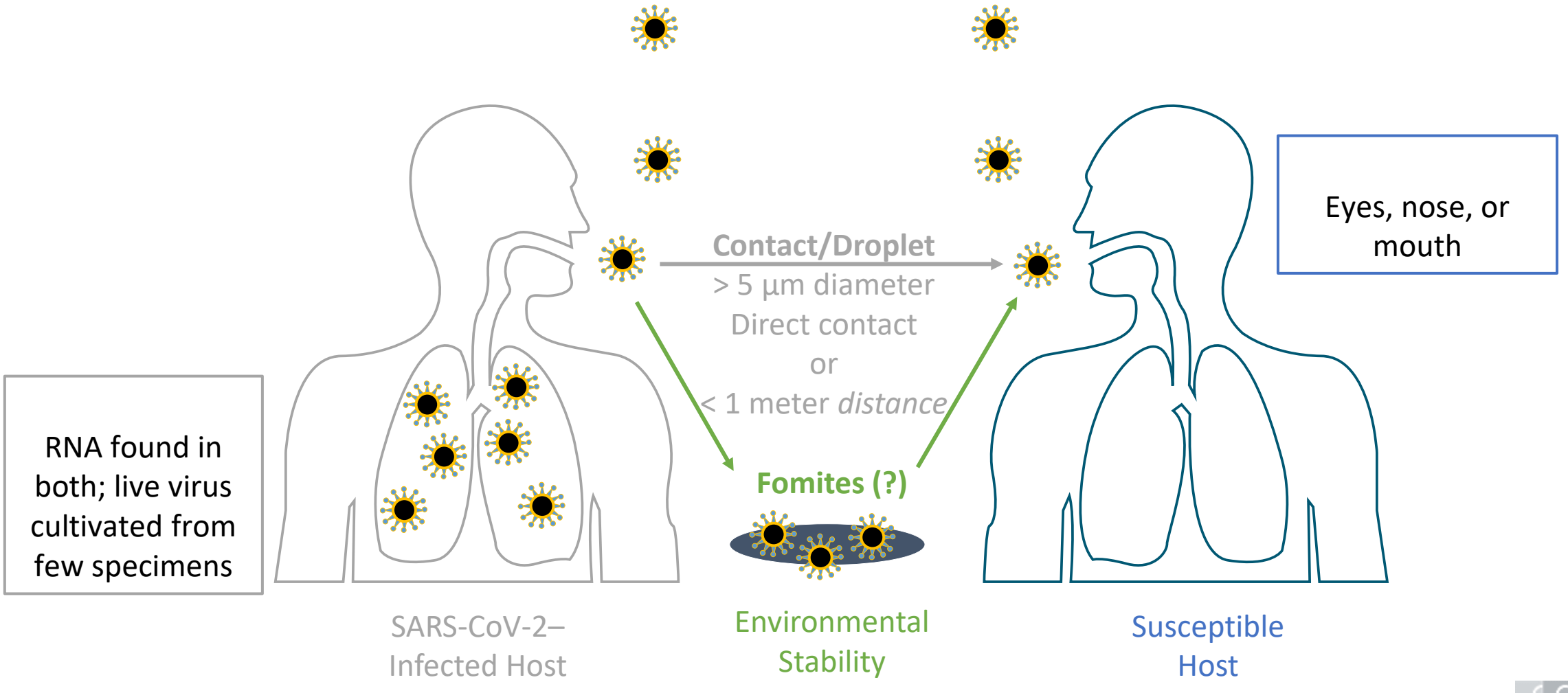
VERY TIME CONSUMING AND LIMITED AVAILABILITY

NO CONTACT TRACING

INTERNATIONAL TRAVEL

ACTS LIKE OTHER VIRUSES AT ONSET

Proposed Routes of SARS-CoV-2 Transmission



Galbadage. Front Public Health. 2020;8:163. WHO. Scientific Brief. July 9, 2020.

Key Considerations on Modes of SARS-CoV-2 Transmission

- Person-to-person considered predominant mode of transmission, likely via respiratory droplets from **coughing, sneezing, singing, talking, or breathing**[1,2]
  - High-level viral shedding evident in upper respiratory tract[3,4]
  - Airborne transmission suggested by multiple studies, but frequency unclear in absence of aerosol-generating procedures in healthcare settings[2]
- Virus **rarely cultured in respiratory samples > 9 days after symptom onset**, especially in patients with mild disease[5]
- Multiple studies describe a correlation between **reduced infectivity with decreases in viral loads** and rises in neutralizing antibodies[5]
- ACOG: “Data indicate that vertical transmission appears to be uncommon”[6]

1. https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/how-covid-spreads.html
2. WHO. Scientific Brief. July 9, 2020. 3. Wölfel. Nature. 2020;581:465. 4. Zou. NEJM. 2020;382:1177.
5. WHO. Scientific Brief. June 17, 2020. 6. ACOG. COVID-19 FAQs for Obstetrician-Gynecologists, Obstetrics.

Timing of SARS-CoV-2 Transmission Based on Symptoms

- Prospective study of lab-confirmed COVID-19 cases (n = 100) and their close contacts (n = 2761) in Taiwan[1]
  - Paired index-secondary cases (n = 22) occurred more frequently with exposure **just before or within 5 days of symptom onset** vs later
- **Pre-symptomatic infections**
  - Accounted for 6.4% of locally acquired infections in a study in Singapore (N = 157)[2]
  - Modelling study of transmission in China (n = 154) estimated that 44% of transmissions may have occurred just before symptoms appeared[3]

- A recent systematic review and meta-analysis estimated that the proportion of total infections that are **truly asymptomatic range from 6% to 41% (pooled estimate of 15%)**[4]
  - Asymptomatic transmission rates ranged from 0% to 2.2% vs symptomatic transmission rates of 0.8% to 15.4%
  - 3 studies reported that the cycle threshold from RT-PCR assays did not differ between symptomatic and asymptomatic individuals

1. Cheng. JAMA Intern Med. 2020;180:1156. 2. Wei. MMWR. 2020;69:411. 3. He. Nature Medicine. 2020;26:672.
4. Byambasuren. MedRxiv. 2020;[Preprint]. Note: this study has not been peer reviewed.

SARS-CoV-2 Transmission in Enclosed vs Outdoor Settings

- Study in Japan traced contacts of 110 people with COVID-19 in ten indoor clusters and assessed the environment in which transmission between contacts occurred[1]
  - 27 primary cases generated secondary cases (24.6%)
- Odds that a primary case transmitted SARS-CoV-2 in an enclosed environment **18.7 x higher** compared with odds of estimated transmission rates in an open-air environment (95% CI: 6.0-57.9)[1]
- **6 of 7 superspreading events** (to 3 or more people) occurred in enclosed environments (OR vs open-air environments: 32.6; 95% CI: 3.7-289.5)[1]
- Consistent with cluster in Germany from indoor work meeting, cluster from a ski chalet France, cluster from choir practice in the US, and church- and hospital-associated clusters in South Korea[2-5]

1. Nishiura. medRxiv;[Preprint]. Note: this study has not been peer reviewed. 2. Hijnen. Emerging Infectious Diseases. 2020;[Epub]. 3. Danis. Clin Infect Dis. 2020;71:825. 4. Hamner. MMWR. 2020;69:606. 5. Shim. Int J Infect Dis. 2020;93:339.

Summary of SARS-CoV-2 Transmission in Various Settings

Crowded enclosed spaces facilitate SARS-CoV-2 transmission

Transmission rates in enclosed spaces appear to be correlated with duration of exposure

- Longer duration → greater risk of transmission

Airborne transmission hypothesized

- Biologically plausible → aerosol generated with greater than normal force or if air current moves aerosol > 1 meter and droplets remain intact

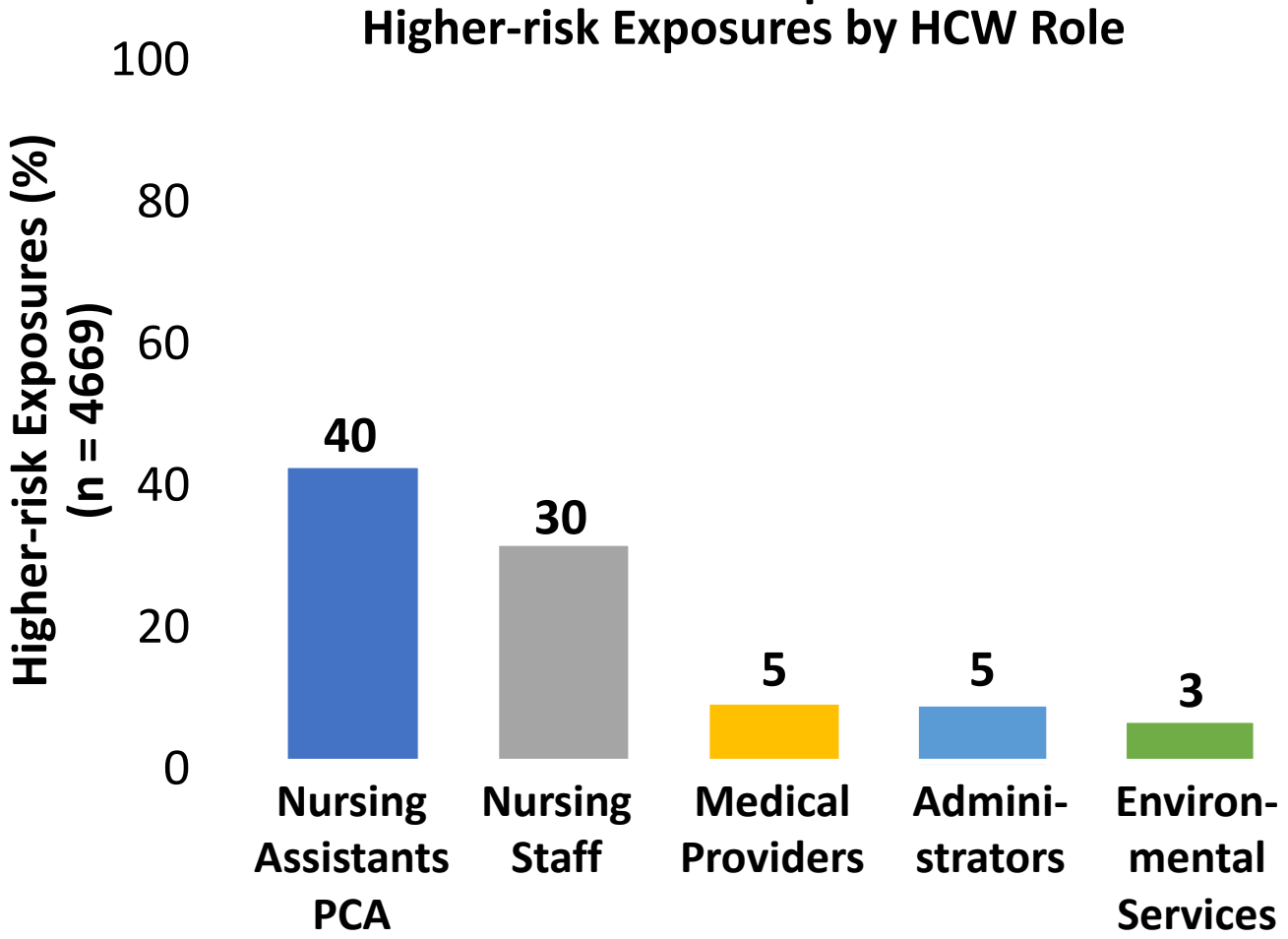
IDSA: SARS-CoV-2 Infection Prevention

Healthcare personnel caring for patients with suspected or known COVID-19

Use appropriate PPE* with proper donning/doffing (ie, gowns, gloves, eye protection)

Conventional Settings		Contingency or Crisis Settings	
Routine Patient Care	*Aerosol-Generating Procedures*	*Routine Patient Care*	*Aerosol-Generating Procedures*
Surgical mask or N95 (N99/PAPR)	N95 (N99/PAPR)	Surgical mask or Reprocessed N95	Face shield or surgical mask covering N95 to allow extended use/reuse or Reprocessed N95

Minnesota Department of Health: SARS-CoV-2 Exposure and HCW Role



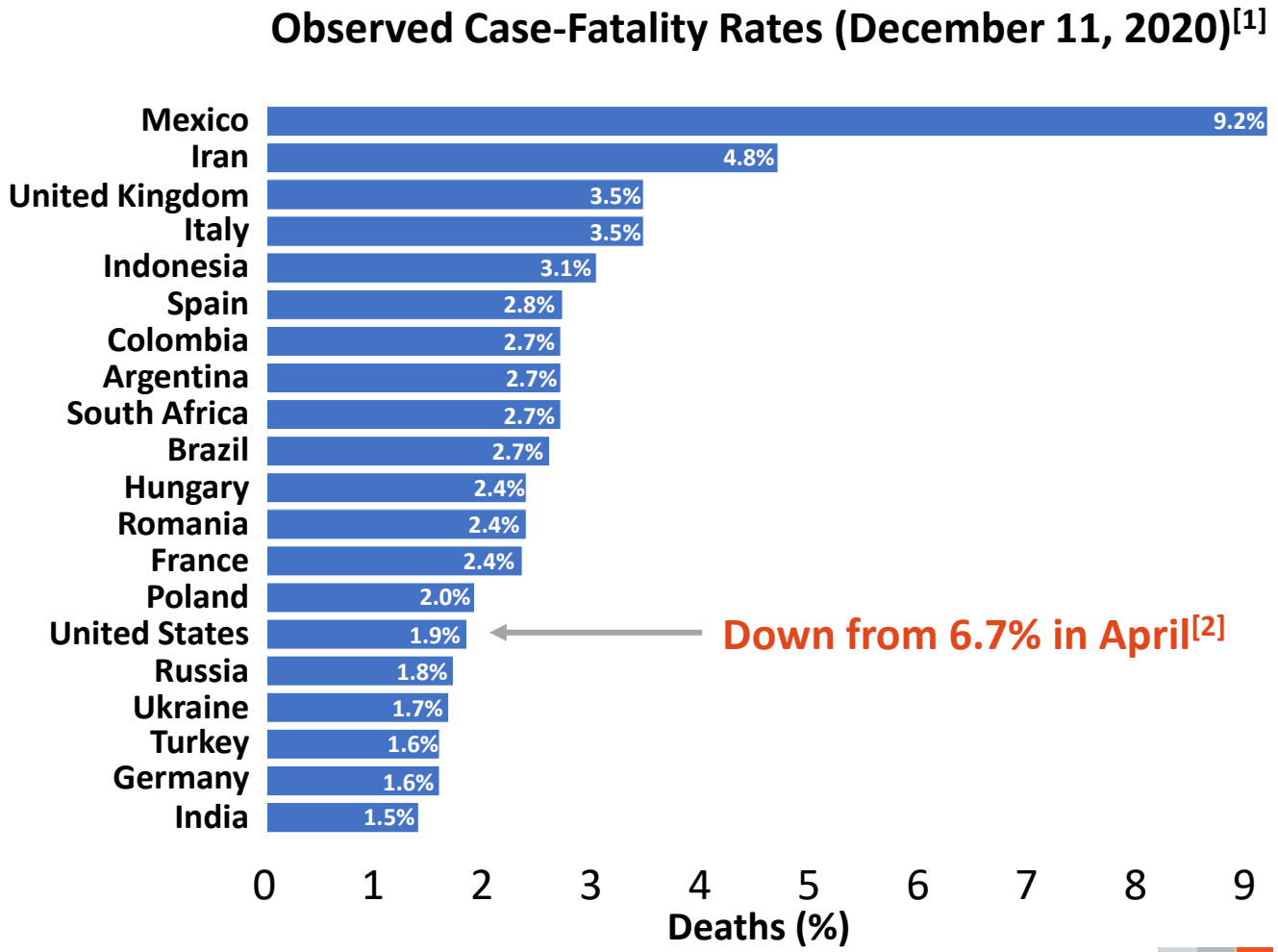
- Among 4020/5374 higher-risk exposures for whom age data available, mean age: 39 yrs (range: 16-80)
- Among 4669/5374 higher-risk exposures for whom HCW role data available, > 70% in nursing-related roles
- 7% of all higher-risk exposures associated with positive SARS-CoV-2 result within 14 days

Fell. MMWR. 2020;69;1605.

Case-Fatality Rates by Country

New

- Differences between countries and time periods could be caused by differences in[1]:
  - Testing → countries only test people with severe symptoms; the case fatality rate will be higher than one with widespread testing for asymptomatic cases
  - Demographics → mortality high for older persons or persons with high-risk comorbidities
  - Healthcare system characteristics → hospital overwhelm, etc
  - Unknown factors



1. https://coronavirus.jhu.edu/data/mortality 2. https://covid.cdc.gov/covid-data-tracker/#trends_dailytrendscases

Slide credit: clinicaloptions.com

Common COVID-19 Diagnostic Methods: RNA

Viral Nucleic Acid Assays

Typically indicate	▪ Current infection
Specimen sources	▪ Upper (eg, nasopharyngeal swabs or washes, oropharyngeal swabs, nasal aspirates) or lower (eg, sputum, bronchoalveolar lavage fluid, tracheal aspirates) respiratory tract
Considerations	▪ Primary method for COVID-19 diagnosis with multiple RT-PCR kits available ▪ False negatives may result from improper sampling or handling, low viral load, or viral mutations ▪ SARS-CoV-2 RNA undetectable by ~ Day 14 following onset of illness in some cases/samples

Udugama. ACS Nano. 2020;14:3822. Lee. Front Immunol. 2020;11:879.

Common COVID-19 Diagnostic Methods: Antibodies

Serologic Assays

Typically indicate	▪ Past infection, but may have some utility in diagnosis of current infection among those presenting late or when RT-PCR negative/unavailable
Specimen sources	▪ Most often blood serum or plasma, but may include saliva, sputum, or other biological fluids
Considerations	▪ Provides a delayed but wider window of time for detection ▪ May be useful for COVID-19 surveillance and identification of convalescent plasma donors ▪ **False negatives**: Low sensitivity in first wk after symptoms with subsequent rises during second/third wks and scant data thereafter; unclear if low-level antibody detectable in cases of mild/asymptomatic disease ▪ **False positives**: Due to cross-reactivity ▪ Is a positive read = immune protection if re-exposed?

Deeks. Cochrane Database Syst Rev. 2020;6:CD013652. Lee. Front Immunol. 2020;11:879. Carter. ACS Cent Sci. 2020;6:591.

SARS-CoV-2 Antibody Tests

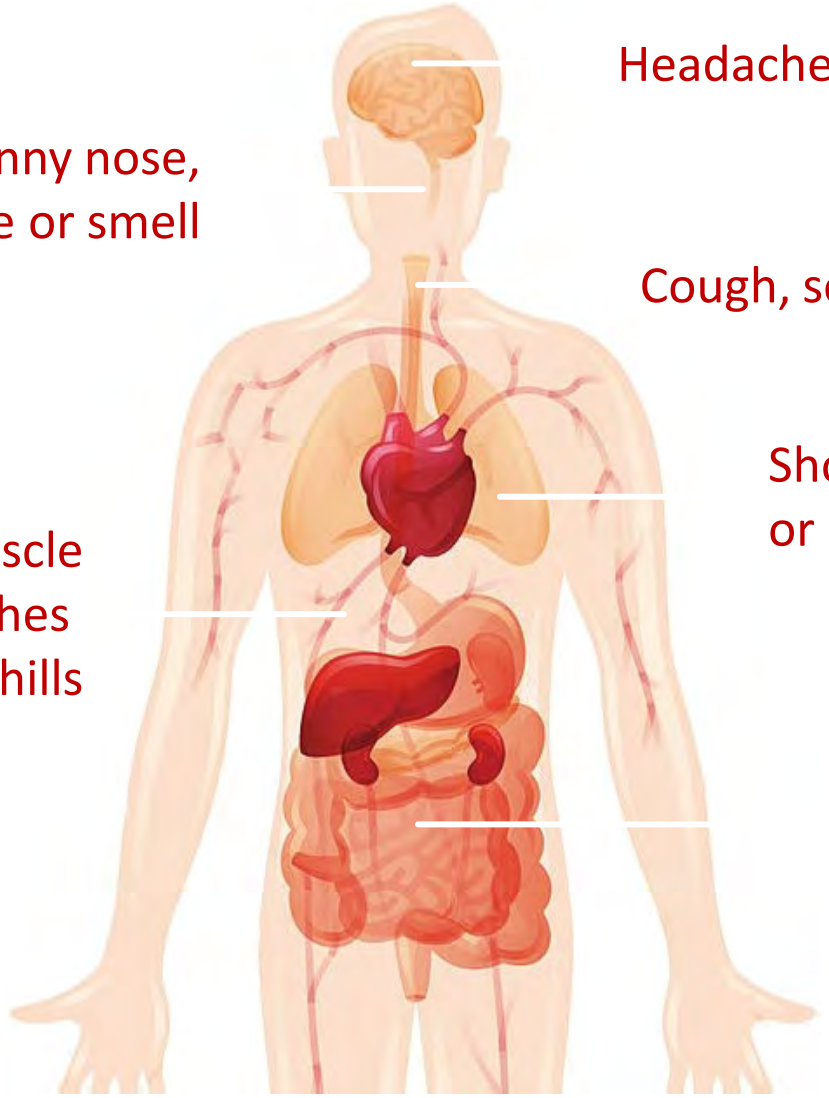
Type of Test*[1]	Time to Results[1]	Sensitivity[1]	Specificity[1]	What It Tells Us[1]	What It Cannot Tell Us[1]	Approved for Diagnostic Use[1,2]
Rapid diagnostic test (RDT)	10-30 mins	87.9% to 99.0%	95.6% to 100%	Presence of antiviral antibodies (qualitative)	Antibody titer, neutralizing activity	US (FDA EUA), EU, China, Australia
Enzyme-linked immunosorbent assay (ELISA)	2-5 hrs	13.9% (0-10 days) to 100% (≥ 21 days)	99% to 100%	Presence and level of antiviral antibodies (quantitative)	Neutralizing activity	US (FDA EUA), Australia
Neutralization assay	3-5 days	90%	Not stated	Presence of antibodies that can inhibit virus growth (ex vivo)	May miss antibodies to viral proteins not involved in replication	Singapore
Chemiluminescent immunoassay	1-2 hrs	65.5% (0-6 days) to 100% (≥ 14 days)	93.0% to 99.8%	Presence and level of antiviral antibodies (quantitative)	Neutralizing activity	US (FDA EUA)

1. Johns Hopkins Center for Health Security. Serology-based tests for COVID-19. https://www.centerforhealthsecurity.org/resources/COVID-19/serology/Serology-based-tests-for-COVID-19.html
2. Australian Therapeutic Goods Administration. https://www.tga.gov.au/covid-19-test-kits-included-artg-legal-supply-Australia

Slide credit: clinicaloptions.com

Primary Symptoms of COVID-19

"Symptoms may appear 2-14 days after exposure to the virus"



Headache

Congestion or runny nose, new loss of taste or smell

Cough, sore throat

Shortness of breath or difficulty breathing

Fatigue muscle or body aches fever or chills

Nausea or vomiting, diarrhea

Li. J Med Virol. 2020;92:577.
https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html

Slide credit: clinicaloptions.com

COVID-19 Clinical Presentation May Vary by Age, Sex

- Observational study of Europeans with mild-to-moderate COVID-19 (ie, no ICU admission) via standardized questionnaire during March 22-April 10, 2020 (N = 1420)[1]
  - **Mean duration of symptoms** (n = 264): 11.5 ± 5.7 days
  - Ear, nose, throat complaints more common in **young patients**; fever, fatigue, loss of appetite, diarrhea in **elderly patients** (*P* < .01)
  - Loss of smell, headache, nasal obstruction, throat pain, fatigue more common in **women**; cough, fever in **men** (*P* < .001)
- Among 17 fatal COVID-19 cases detailed by the China National Health Commission, **median time from first symptom to death**: 14 days (range: 6-41)[2]
  - Numerically faster in **older patients**: 11.5 days if ≥ 70 yrs vs 20 days if < 70 yrs (*P* = .033)

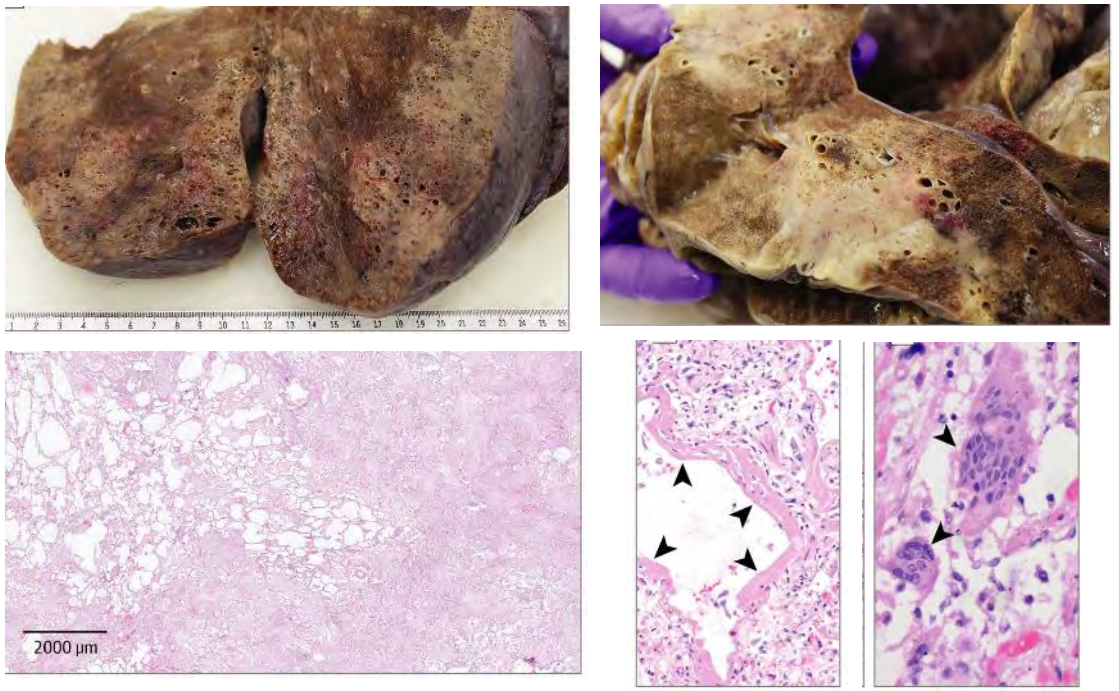
Symptom,[1] %	**N = 1420**
Headache	70.3
Loss of smell	70.2
Nasal obstruction	67.8
Asthenia	63.3
Cough	63.2
Myalgia	62.5
Rhinorrhea	60.1
Taste dysfunction	54.2
Sore throat	52.9
Fever (> 38°C)	45.4

1. Lechien. J Intern Med. 2020;288:335. 2. Wang. J Med Virol. 2020;92:441.

Slide credit: clinicaloptions.com

Pulmonary Sequelae

- Diffuse alveolar damage noted in multiple, small postmortem studies of COVID-19
  - N = 38 from northern Italy[1]
  - N = 10 from Germany[2]
- Platelet–fibrin thrombi indicative of coagulopathy observed in small arterial vessels of some patients[1]



1. Carsana. Lancet Infect Dis. 2020;20:1135. 2. Schaller. JAMA. 2020;323:2518.

Slide credit: clinicaloptions.com

Characterization of COVID-19 Patients Returning for Care After Hospitalization

- Retrospective cohort study of patients with confirmed SARS-CoV-2 infection discharged from 5 NYC hospitals (N = 2864)
  - 3.6% (n = 103) sought emergency care after median 4.5 days
  - 2.0% (n = 56) required inpatient readmission
- One half of patients returning for care experienced **respiratory distress**
- Compared with patients not returning for care, those seen again had:
  - More COPD (6.8% vs 2.9%) and hypertension (36.0% vs 22.1%)
  - Shorter median length of initial stay (4.5 vs 6.7 days)

Somani. J Gen Intern Med. 2020;25:2638.

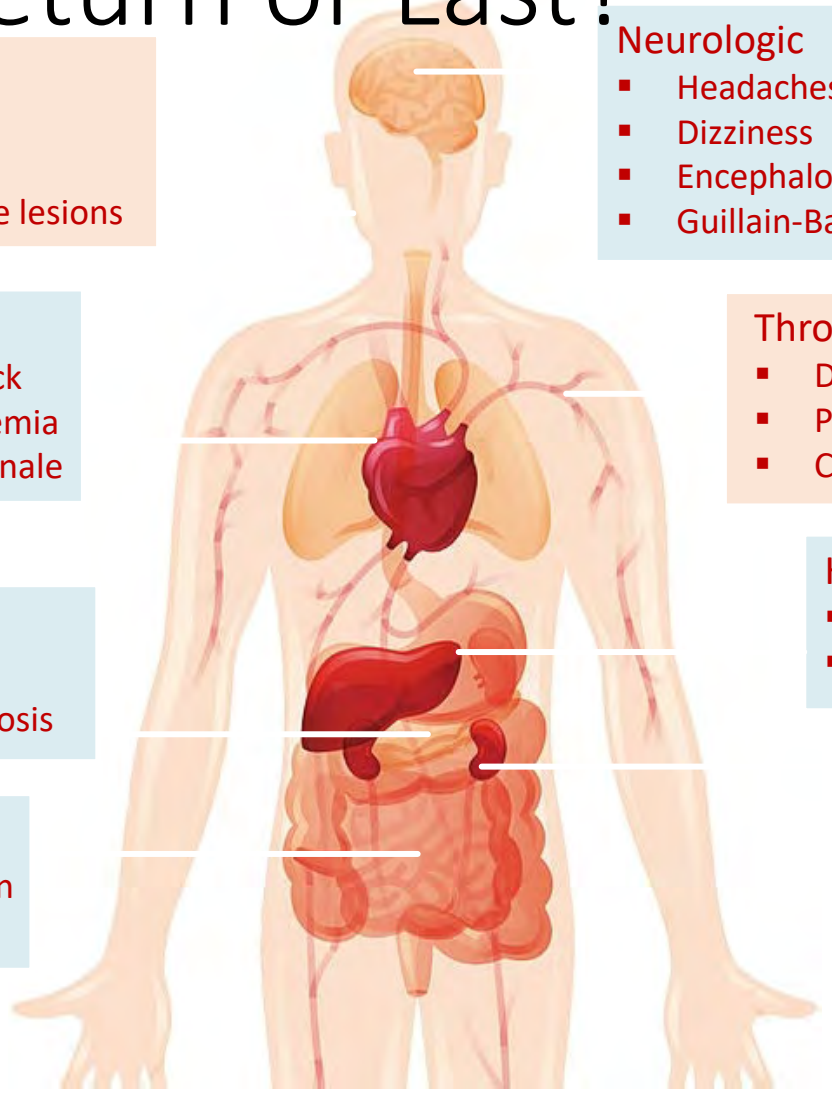
Extrapulmonary Manifestations of COVID-19: Which of These Return or Last?

Dermatologic
- Petechaie
- Livedo reticularis
- Erythematous rash
- Urticaria
- Vesicles
- Pernio-like lesions

Neurologic
- Headaches
- Dizziness
- Encephalopathy
- Guillain-Barré
- Ageusia
- Myalgia
- Anosmia
- Stroke

Cardiac
- Takotsubo cardiomyopathy
- Myocardial injury/myocarditis
- Cardiac arrhythmias
- Cardiogenic shock
- Myocardial ischemia
- Acute cor pulmonale

Thromboembolism
- Deep vein thrombosis
- Pulmonary embolism
- Catheter-related thrombosis



Endocrine
- Hyperglycemia
- Diabetic ketoacidosis

Hepatic
- Elevated ALT/AST
- Elevated bilirubin

Gastrointestinal
- Diarrhea
- Nausea/vomiting
- Abdominal pain
- Anorexia

Renal
- Acute kidney injury
- Proteinuria
- Hematuria

Gupta. Nat Med. 2020;26:1017.

Slide credit: clinicaloptions.com

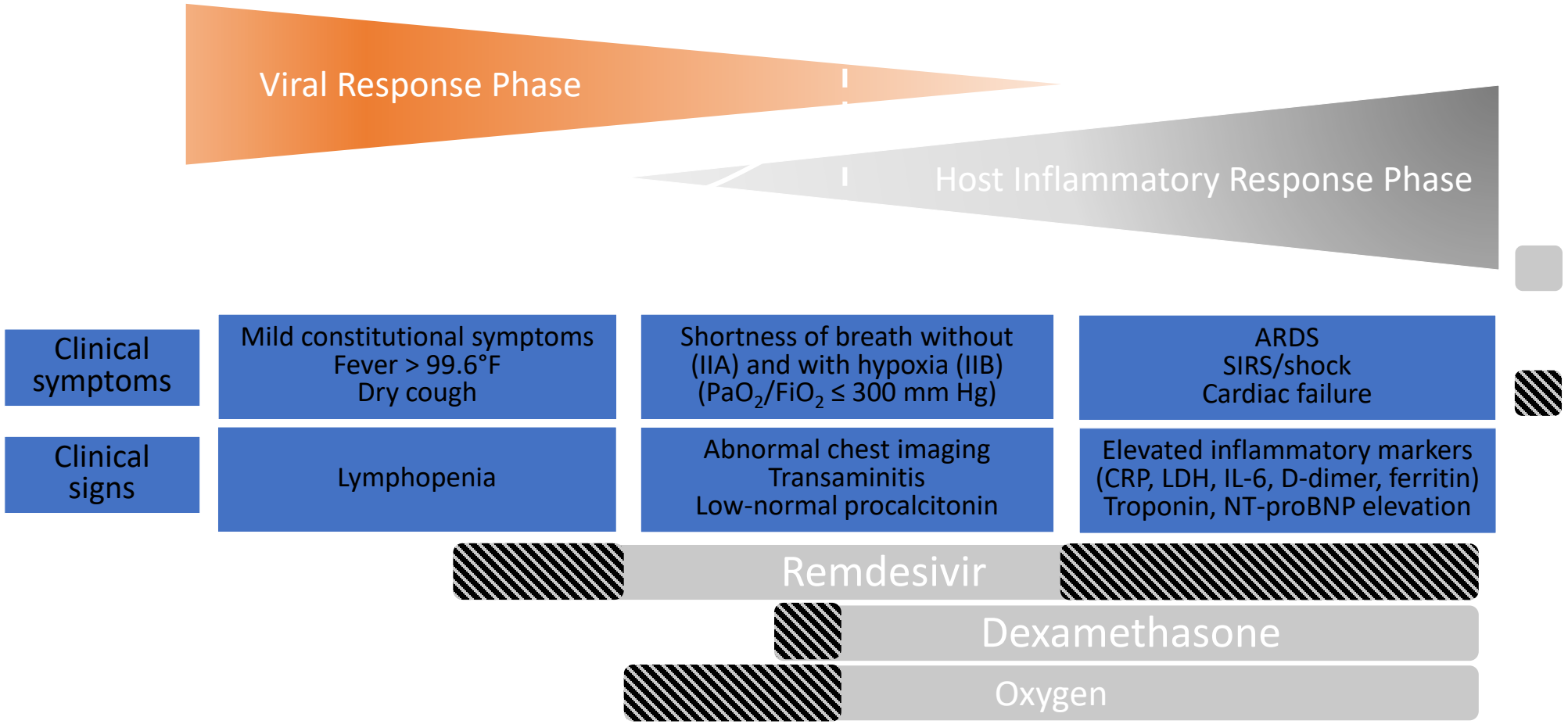
Cardiovasular Sequelae

- Prospective, observational cohort study sourcing recovered patients from the University Hospital Frankfurt COVID-19 Registry (N = 100)[1]
  - CV magnetic resonance performed at median 71 days from diagnosis
  - Abnormal findings in 78% of patients, myocardial inflammation in 60%; independent of preexisting comorbidities, severity of acute SARS-CoV-2 infection, and time from diagnosis
  - Reduced left ventricular ejection fraction, increased left ventricle volumes and native T1/T2 vs risk-matched controls

"There are no data on how acute treatment of COVID-19 may affect . . . long-term cardiac recovery and function. Patients with ostensibly recovered cardiac function may still be at risk of cardiomyopathy and cardiac arrhythmias."[2]

1. Puntmann. AMA Cardiol. 2020;[Epub]. 2. Mitrani. Heart Rhythm. 2020;[Epub].

COVID-19 Therapies Predicted to Provide Benefit at Different Stages



Siddiqi. J Heart Lung Transplant. 2020;39:405.

Slide credit: clinicaloptions.com

BLAZE-1: Impact of Bamlanivimab Treatment on Viral Load and Hospitalization

- Ongoing randomized, double-blind, placebo-controlled phase II trial assessing bamlanivimab to treat patients presenting with mild to moderate COVID-19 who had sample collection for SARS-CoV-2 positive test within 3 days prior to infusion (N = 452)
  - Nearly 70% of patients had ≥ 1 risk factor for severe COVID-19 (≥ 65 yrs of age, BMI ≥ 35, or 1 relevant comorbidity)

Outcome	Total Bamlanivimab (N = 309)	Bamlanivimab 7000 mg (n = 101)	Bamlanivimab 2800 mg (n = 107)	Bamlanivimab 700 mg (n = 101)	Placebo (n = 143)
Mean Δ in viral load from BL to Day 11, log_{10}	-3.70	-3.38	-4.00	-3.67	-3.47
▪ Difference vs placebo (95% CI)	-0.22 (-0.60 to -0.15)	0.09 (-0.37 to 0.55)	-0.53 (-0.98 to -0.08)	-0.20 (-0.66 to 0.25)	NA
Hospitalization or emergency department visits, n (%)	5 (1.6)	2 (2.0)	2 (1.9)	1 (1.0)	9 (6.3)

Chen. NEJM. 2020;[Epub].

Slide credit: clinicaloptions.com

FDA Emergency Use Authorization of Bamlanivimab

". . . permits the emergency use of the unapproved product bamlanivimab for the treatment of mild to moderate coronavirus disease 2019 (COVID-19) in adults and pediatric patients with positive results of direct SARS-CoV-2 viral testing who are 12 yrs of age and older weighing at least 40 kg, and who are at high risk for progressing to severe COVID-19 and/or hospitalization."

- as possible after positive SARS-CoV-2 test and within 10 days of symptom onset
- **Not authorized for use in:**
  - Hospitalized patients (benefit of treatment has not been observed)
  - Patients requiring oxygen due to COVID-19 (monoclonal antibodies may be associated with worse outcomes in hospitalized patients receiving high-flow oxygen or mechanical ventilation)
  - Patients on chronic oxygen therapy for non-COVID-19–related comorbidity who require an increase in baseline oxygen flow rate due to COVID-19

Bamlanivimab EUA Provider Fact Sheet. November 2020.

Slide credit: clinicaloptions.com

Nonhospitalized High-Risk Patients Authorized to Receive Bamlanivimab by the FDA

- **Patients with ≥ 1 of the following:**
  - BMI ≥ 35
  - CKD or diabetes
  - Immunosuppressive disease
  - Currently receiving immunosuppressive treatment
  - ≥ 65 yrs of age
- **Patients ≥ 55 yrs of age and with ≥ 1 of the following:**
  - CVD, hypertension, or COPD/chronic respiratory disease
- **Patients 12-17 yrs of age and with ≥ 1 of the following:**
  - BMI ≥ 85th percentile for age/gender based on CDC growth charts
  - Sickle cell disease
  - Heart disease
  - Neurodevelopmental disorders
  - Medical-related technological dependence (eg, tracheostomy, gastrostomy)
  - Asthma, reactive airway, or other chronic respiratory disease requiring daily medication

Bamlanivimab EUA Provider Fact Sheet. November 2020.

Slide credit: clinicaloptions.com

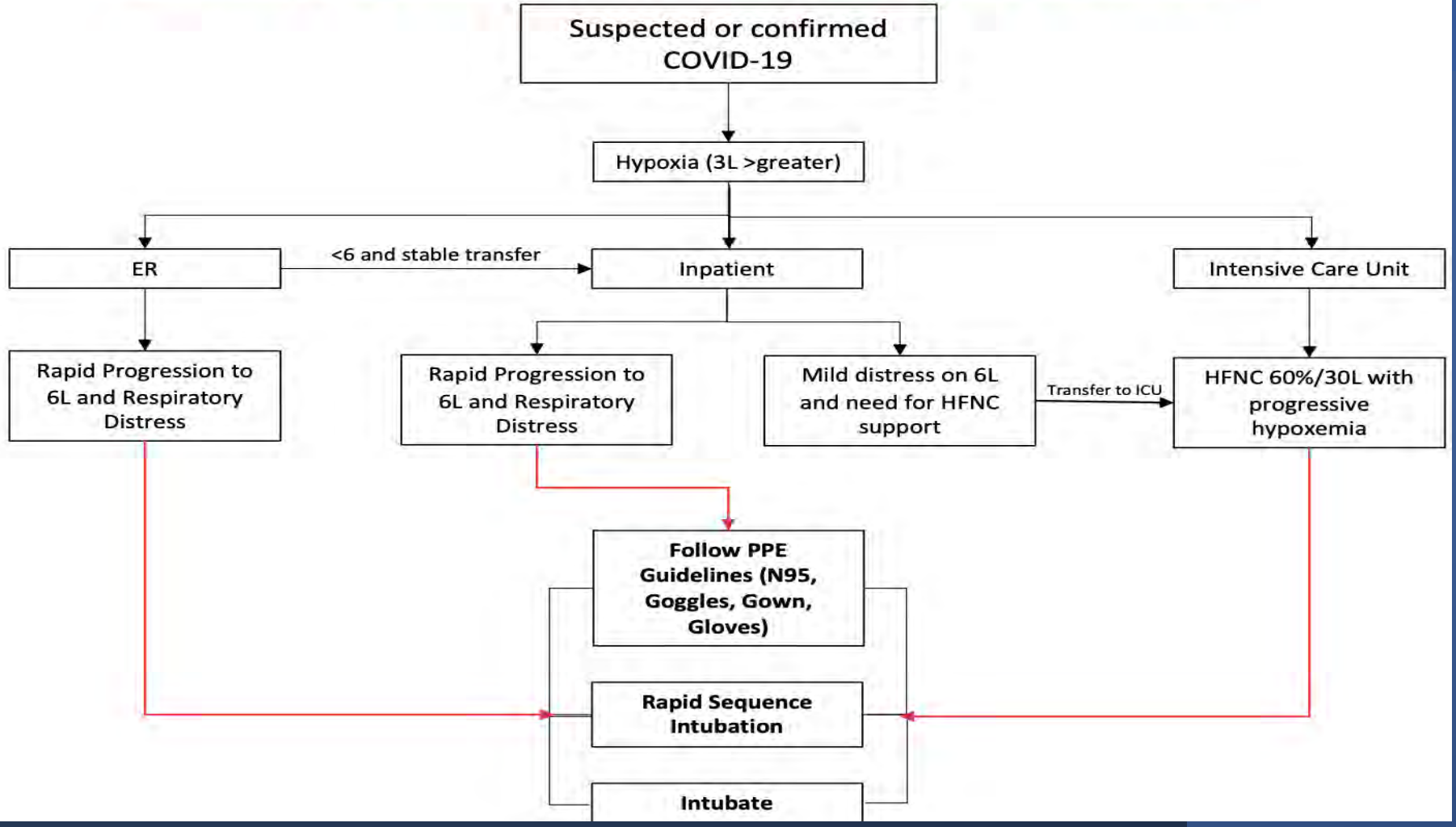
Non-Therapeutic Management of Critical COVID-19: ARDS

Patients With ARDS	Recommendation
Any	▪ Provide advanced oxygen/ventilatory support if patient in respiratory distress does not respond to standard oxygen therapy and develops acute hypoxemic respiratory failure ▪ Reserve performance of endotracheal intubation with airborne precautions for trained/experienced providers ▪ Reserve trials of HFNO and NIV for select patients with mild ARDS; monitor for deterioration
Mechanically ventilated	▪ Use lower tidal volumes (4-8 mL/kg PBW), inspiratory pressures (plateau pressure < 30 cmH_2O) ▪ Apply prone ventilation 12-16 hrs/day in adults with severe ARDS ▪ Practice conservative fluid management if no tissue hypoperfusion and fluid responsiveness ▪ In case of moderate-to-severe ARDS, higher vs lower PEEP suggested with individualized titration and monitoring; avoid neuromuscular blockade by continuous infusion ▪ Avoid disconnecting ventilator; clamp endotracheal tube if transferring to transport ventilator ▪ Consider airway clearance techniques in patients with excessive secretions or difficulty clearing secretions, if deemed medically appropriate ▪ Consider ECMO referral if refractory hypoxemia persists despite lung-protective ventilation

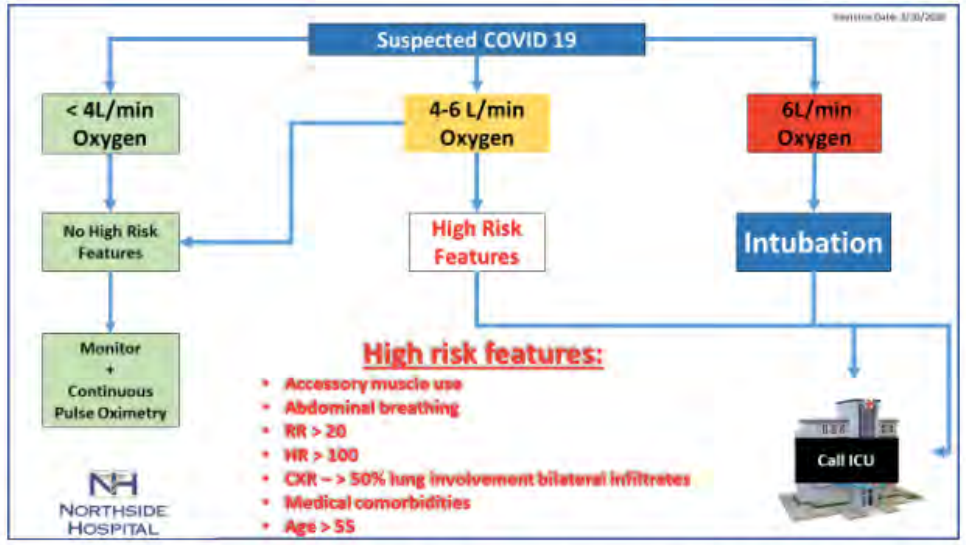
WHO Interim Guidance. Clinical management of COVID-19. May 27, 2020.

Intubation Guidelines for COVID-19

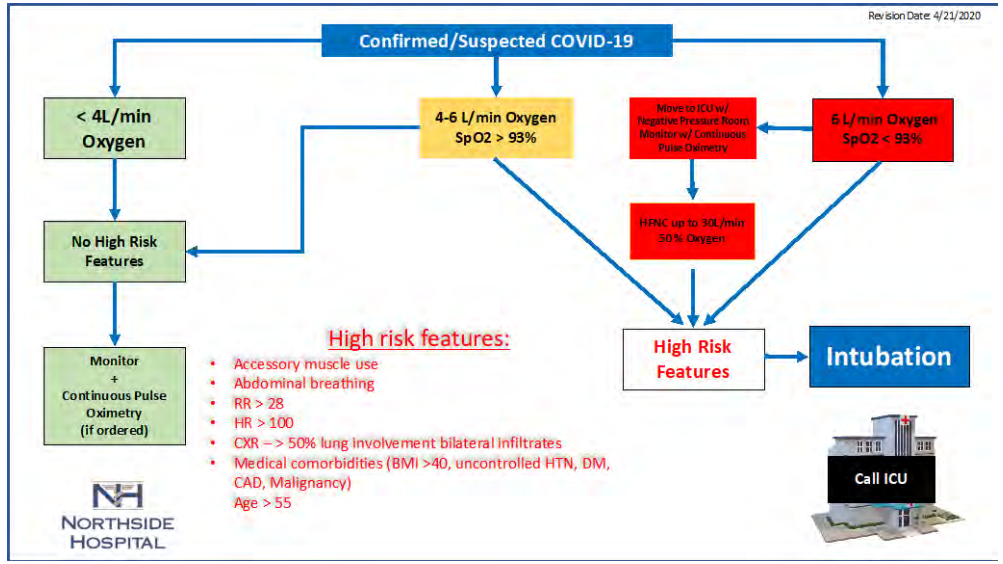
Created solely for the purposes of peer review and quality review: Confidential and proprietary.



Airway Management



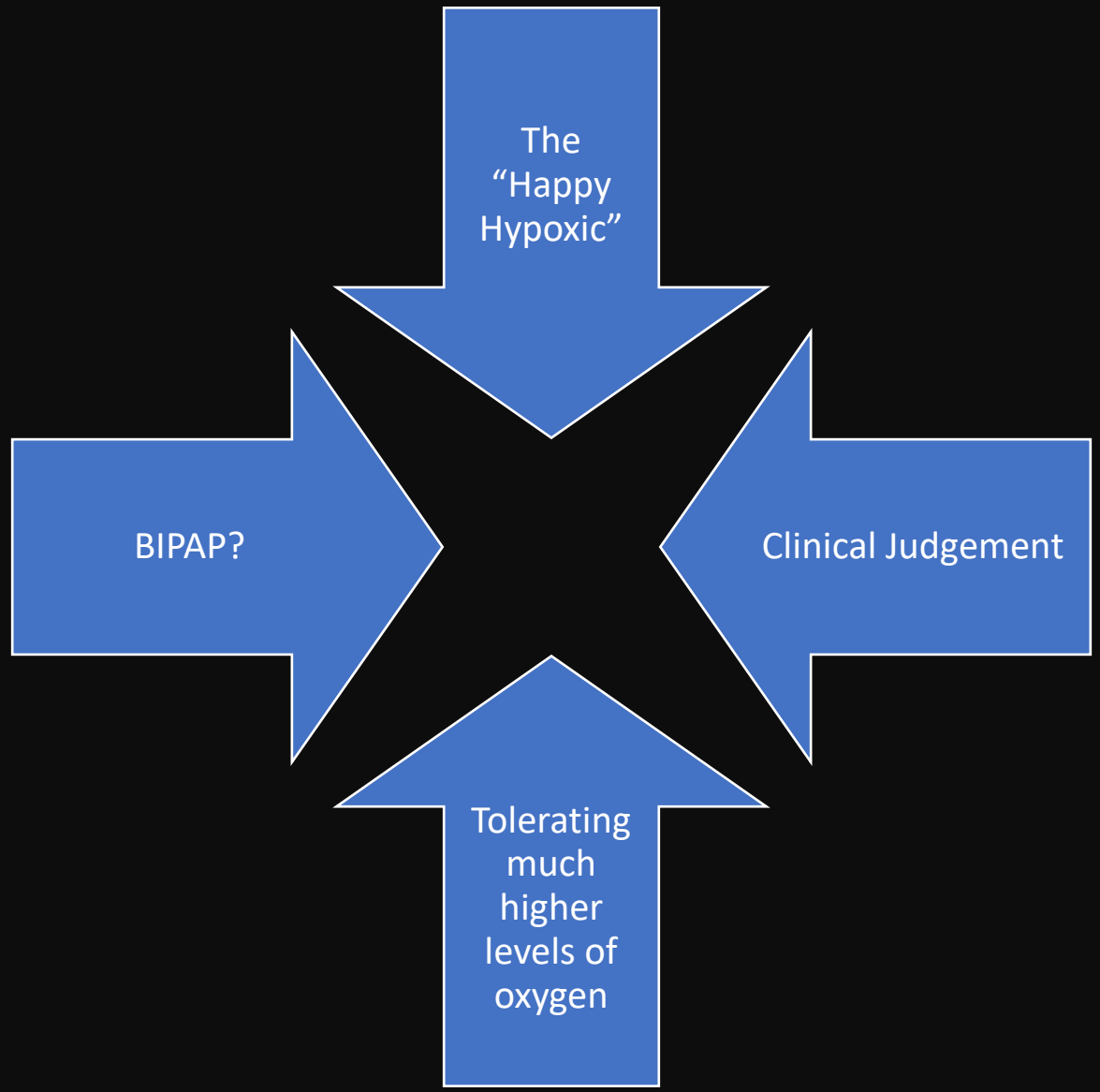
*If there is a chance for respiratory progression we will recommend erring on the side of early intubation vs alternative measures of oxygenation. If we are under resource augmentation strategy protocol, we will provide guidance regarding the use of high flow nasal cannula or non-invasive ventilation.



Intubation and anesthesia concerns

- Potentially difficult intubation in severe disease
- Risk of postoperative pulmonary complications
- Decontamination of equipment
- Minimize staff present
- Use of viral filters
- Use of closed suction system
- Extubation high risk for exposure (cough prophylaxis)

Airway Management



How do we protect ourselves?

Aerosol generating procedures highest risk

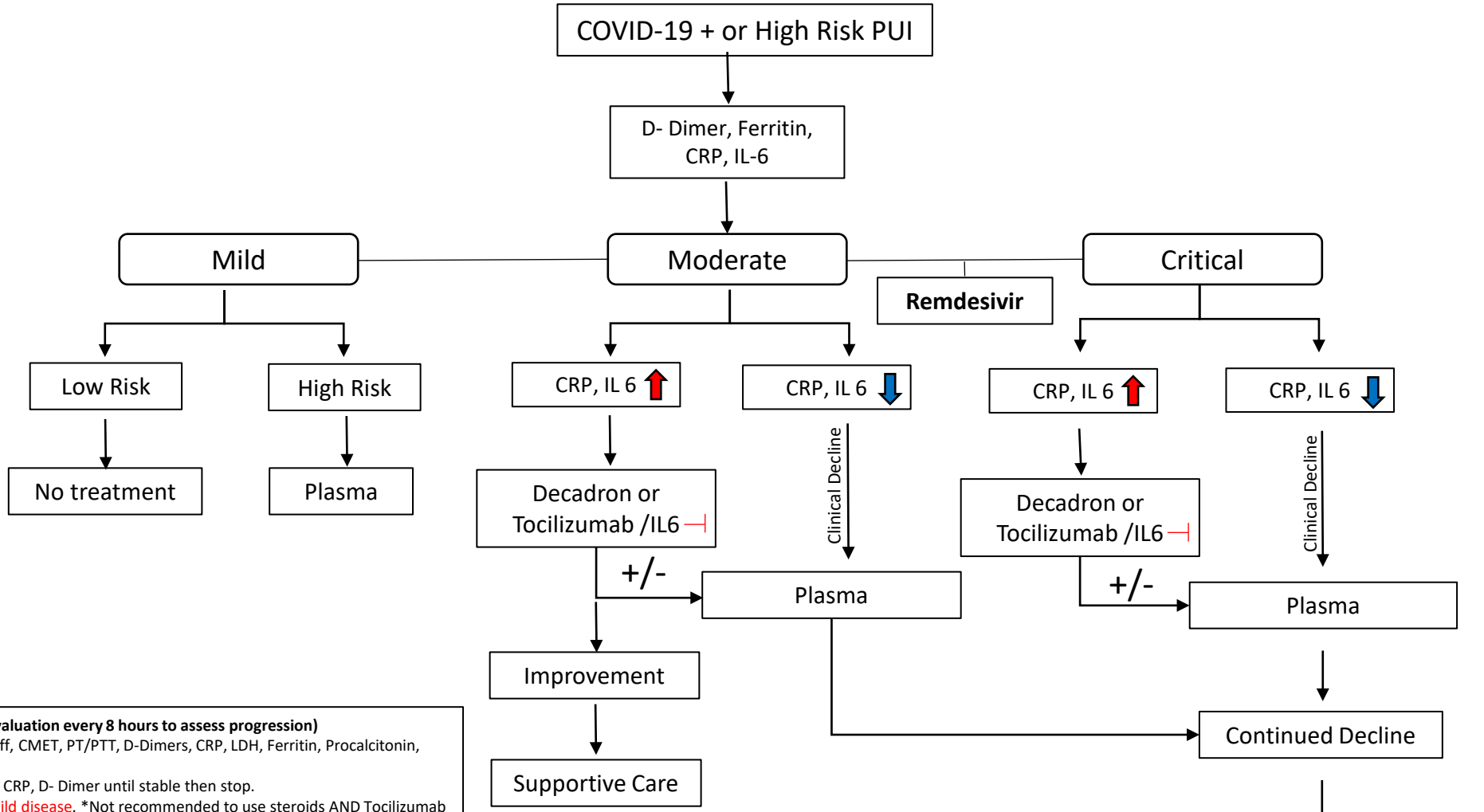
Minimum of N95, droplet protective gown, eye protection

Consider PAPR, CAPR

Treatment Guidelines for COVID-19

Last updated 07-16-2020
Abubakr Chaudhry MD

Created solely for the purposes of peer review and quality review: Confidential and proprietary.



For all patients: (Clinical re-evaluation every 8 hours to assess progression)

- Baseline Labs: CBC with diff, CMET, PT/PTT, D-Dimers, CRP, LDH, Ferritin, Procalcitonin, Blood type and cross
- Daily CBC with diff, CMET, CRP, D- Dimer until stable then stop.
- Avoid corticosteroids in mild disease. *Not recommended to use steroids AND Tocilizumab
- Add Vitamin C and Zinc (PO preferred) and **Prone all moderate & critical patients**
- Refer to COVID-19 VTE Treatment algorithm
- Consider bacterial infection, Empiric Antimicrobials per institutional guidelines

For patients receiving Toci:

- Baseline IL-6 level on initiation (pre-checked on COVID-19 admission powerplan)

Questions or Concerns Regarding Tx Plan Please Contact Abubakr Chaudhry or Judy Gardner

Supportive care is preferred. There are no FDA approved treatments for COVID19. Treatments should be started on a case by case bases.
***Clinical Trial enrollment preferred**
Please contact Margaret Ferreira for details
Margaret.Ferreira@northside.com

NORTHSIDE HOSPITAL

Treatments

Disproven or Non-beneficial

- Hydroxychloroquine *(N Engl J Med 2020; 383:2041-2052 DOI: 10.1056/NEJMoa2019014)*
- Ivermectin
- Azithromycin
- Convalescent plasma *(PLACID trial RCT negative but research ongoing)?*

FDA or EUA with possible benefit

Inpatient ONLY (Requiring Oxygen)

- Remdesivir (FDA approved)
- Decadron *(RECOVERY Trial RCT only benefit in hospitalized patients while on oxygen)*
- Baricitinib – Jak inhibitor (EUA)

Outpatient ONLY:

- Bamlanivimab (EUA Outpatient Only)
- Casirivimab and Imdevimab (EUA outpatient only – regeneron)

Corticosteroids for COVID-19

Last updated 07-16-2020
Abubakr Chaudhry MD

Created solely for the purposes of peer review and quality review: Confidential and proprietary.

Corticosteroid Trials

Alhazzani W, Møller MH, Arabi YM, et al. Surviving Sepsis Campaign: guidelines on the management of critically ill adults with Coronavirus Disease 2019 (COVID-19). Intensive Care Med. March 2020. doi:10.1007/s00134-020-06022-5

Lee N, Allen C, Hui D, et al. Effects of early corticosteroid treatment on plasma SARS-associated Coronavirus RNA concentrations in adult patients. J Clin Virol. 2004;31(4):304-309. doi:10.1016/j.jcv.2004.07.006

Chen R, Tang X, Tan S, et al. Treatment of severe acute respiratory syndrome with glucosteroids: the Guangzhou experience. Chest. 2006;129(6):1441-1452. doi:10.1378/chest.129.6.1441

Zhou Y, Qin Y, Lu Y, et al. Effectiveness of glucocorticoid therapy in patients with severe novel coronavirus pneumonia: protocol of a randomized controlled trial. Chin Med J (Engl). March 2020. doi:10.1097/CM9.0000000000000791

Fang X, Mei Q, Yang T, et al. Low-dose corticosteroid therapy does not delay viral clearance in patients with COVID-19. J Infect. April 2020. doi:10.1016/j.jinf.2020.03.039

Wu C, Chen X, Cai Y, et al. Risk Factors Associated With Acute Respiratory Distress Syndrome and Death in Patients With Coronavirus Disease 2019 Pneumonia in Wuhan, China. JAMA Intern Med. March 2020. doi:10.1001/jamainternmed.2020.0994

Corticosteroid Trials

RECOVERY (Randomized Evaluation of COVID-19 Therapy) trial

- **2104 patients randomized to receive dexamethasone 6mg once a day (PO or IV) 4321 patients randomized to usual care alone**
- **Approximately 35% risk reduction**
- **Ventilator mortality 41% / Requiring O2 25%**
- *No benefit was demonstrated in hospitalized COVID-19 patients who were not receiving respiratory support and the results are consistent with possible harm in this group*

Villar J, Ferrando C, Martinez D, et al. Dexamethasone treatment for the acute respiratory distress syndrome: a multicentre, randomised controlled trial. Lancet Respir Med 2020;8:267-76.

- Stopped Early due to low enrollment rate
- Dexamethasone group received an intravenous dose of 20 mg once daily from day 1 to day 5, which was reduced to 10 mg once daily from day 6 to day 10.
- Reduction in ventilator days (only 277 patients total)

Siemieniuk RA, Meade MO, Alonso-Coello P, et al. Corticosteroid Therapy for Patients Hospitalized With Community-Acquired Pneumonia: A Systematic Review and Meta-analysis. Ann Intern Med 2015;163:519-28

- Decrease hospital LOS by 1 day
- Limited by exclusion of patients at high risk for adverse events.

Current Recommendations

Recommendations:

1. Not to be used in mild disease
2. Only recommended In moderate or critical disease if used in place of Tocilizumab
3. It is not recommended to discharge patients on Decadron in order to complete treatment course
4. Not recommended in patients with concomitant bacterial or fungal infections
5. Not recommended as prophylactic therapy
6. In non-pregnant patients dosing should be limited to 10 days total at 6mg po/iv or equivalent dosing *(equivalent to 32mg of Solu-medrol, 40mg of prednisone, or 160mg of hydrocortisone).*
7. *Re-evaluation should be preformed at 5 days to assess if 10 day course is required*
8. *In pregnant patients choice of steroids should be discussed with Ob/Gyn and is dependent on maternal-fetal factors*

NORTHSIDE HOSPITAL

Post COVID Concerns

- Thromboembolic Disease
- POTS (postural orthostatic tachycardia syndrome)
- Post Acute COVID-19 Syndrome
- COVID 19 – Cardiac Manifestations (myocarditis)
- COVID 19 – Neurologic Manifestations (confusion, ”brain fog”)
- Long term loss of taste and smell

Vaccination

- Pfizer
- Moderna
- Univ. of Oxford, AstraZeneca

Flu and COVID Co-infections

- In Georgia reported co-infection rates are still low
- Increased flu vaccination
- Masking
- Travel Restrictions

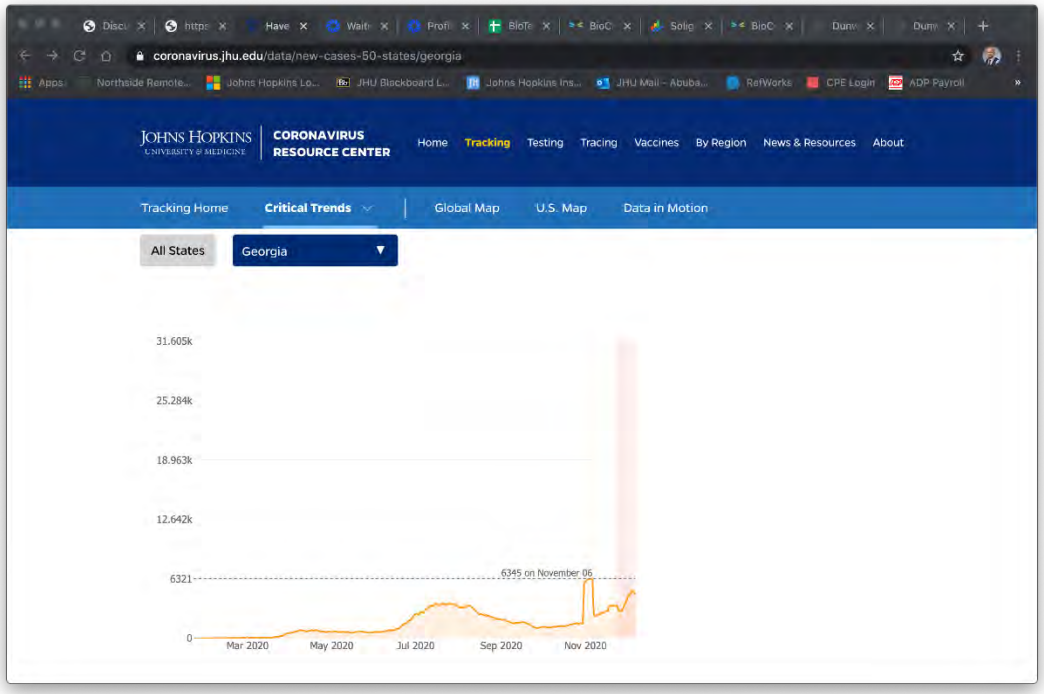
Vaccination

- The best chance we have
- mRNA vaccine studied over 10 years
- mRNA vaccine made more quickly since it does not have to be grown
- Unbelievably low rates of healthcare workers receiving

Vaccination

- UK mutation B.1.1.7
  - First case in Georgia, no travel history
  - Carries spike protein covered by Pfizer/Moderna vaccine
  - Much more infectious

Surge



- 5000 + Cases per day
- Continued surge over holidays
- Masking decreases spread
- Mutations?


COVID-19 Dashboard by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University (...
Global Cases
88,589,250
Cases by Country/Region/Sovereignty
21,776,072 US
10,413,417 India
7,961,673 Brazil
3,321,163 Russia
2,966,203 United Kingdom
2,763,563 France
2,307,581 Turkey
2,237,890 Italy
2,050,360 Spain
Admin0
Last Updated at (M/D/YYYY)
1/8/2021, 3:21 PM
Esri, FAO, NOAA
Cumulative Cases
Active Cases
Incidence Rate
Case-Fatality Ratio
Testing Rate
191
countries/regions
Lancet Inf Dis Article: Here. Mobile Version: Here. Data sources: Full list. Downloadable database: GitHub, Feature Layer.
Lead by JHU CSSE. Technical Support: Esri Living Atlas team and JHU APL. Financial Support:
Global Deaths
1,907,608
367,635 deaths US
200,498 deaths Brazil
150,570 deaths India
131,031 deaths Mexico
79,959 deaths
Global Deaths
US State Level
Deaths, Recovered
39,155 deaths, 107,243 recovered New York US
29,514 deaths, 1,522,105 recovered Texas US
28,634 deaths, recovered California US
US Deaths, Re...
2M
1M
0
Jul
2021
Daily Cases

So what about the future?

- Continued mutations
- Yearly vaccines?
- Long term immunity?
- Long term consequences
- Lots of unknowns

Take Home Points

- The numbers in GA will go up
- Vaccination will help but the number of individuals that need to be vaccinated to achieve herd immunity is unknown
- Masking and social distancing saves lives
- Avoid large gatherings
- Be mindful of your mental and physical health

2020

COVID-19

BY THE NUMBERS

MICHAEL S. NICHOLS, CAA, MBA

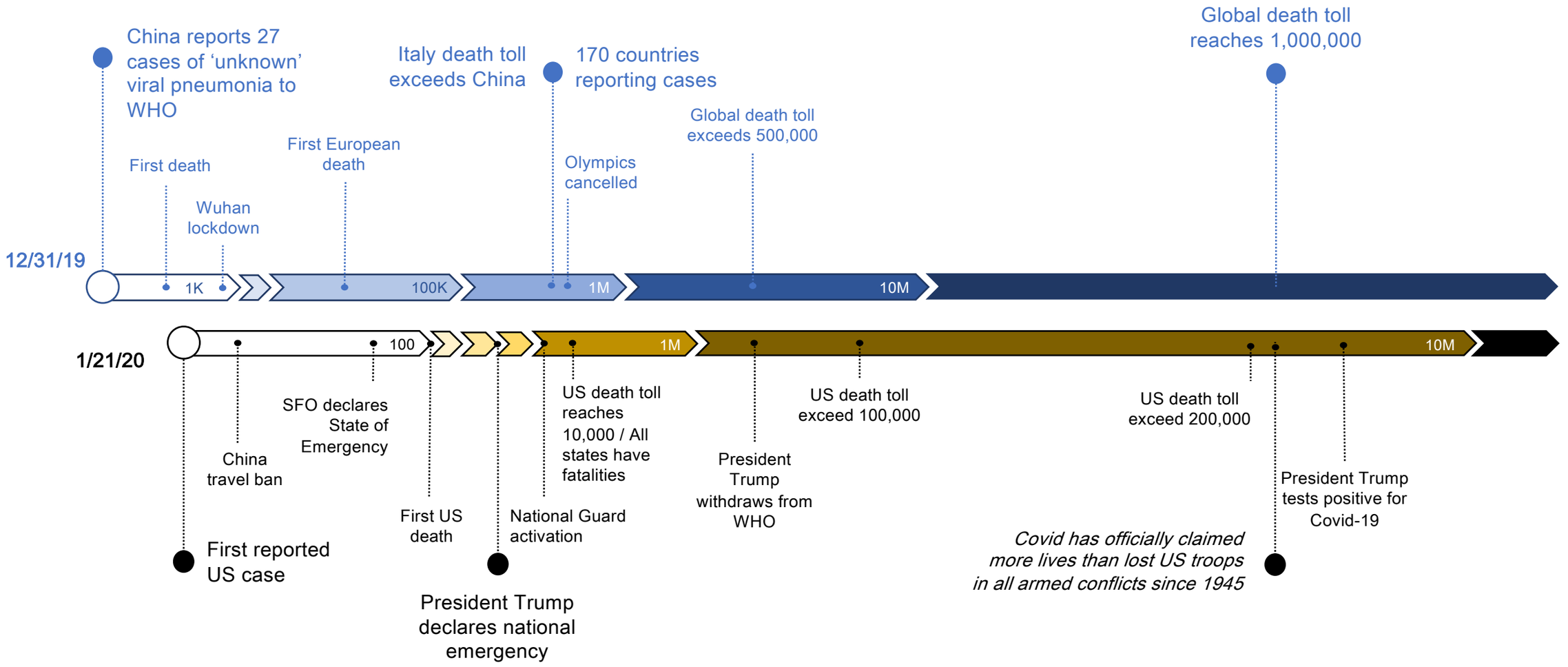
Senior Clinical Anesthetist
Northside Anesthesiology Consultants, PC
(A Division of Envision Physician Services)

Assistant Instructor of Healthcare Data Analytics
University of Dayton – School of Business Administration

The author has no pertinent financial interests or conflict of interest to declare

How It Started...How It's Going

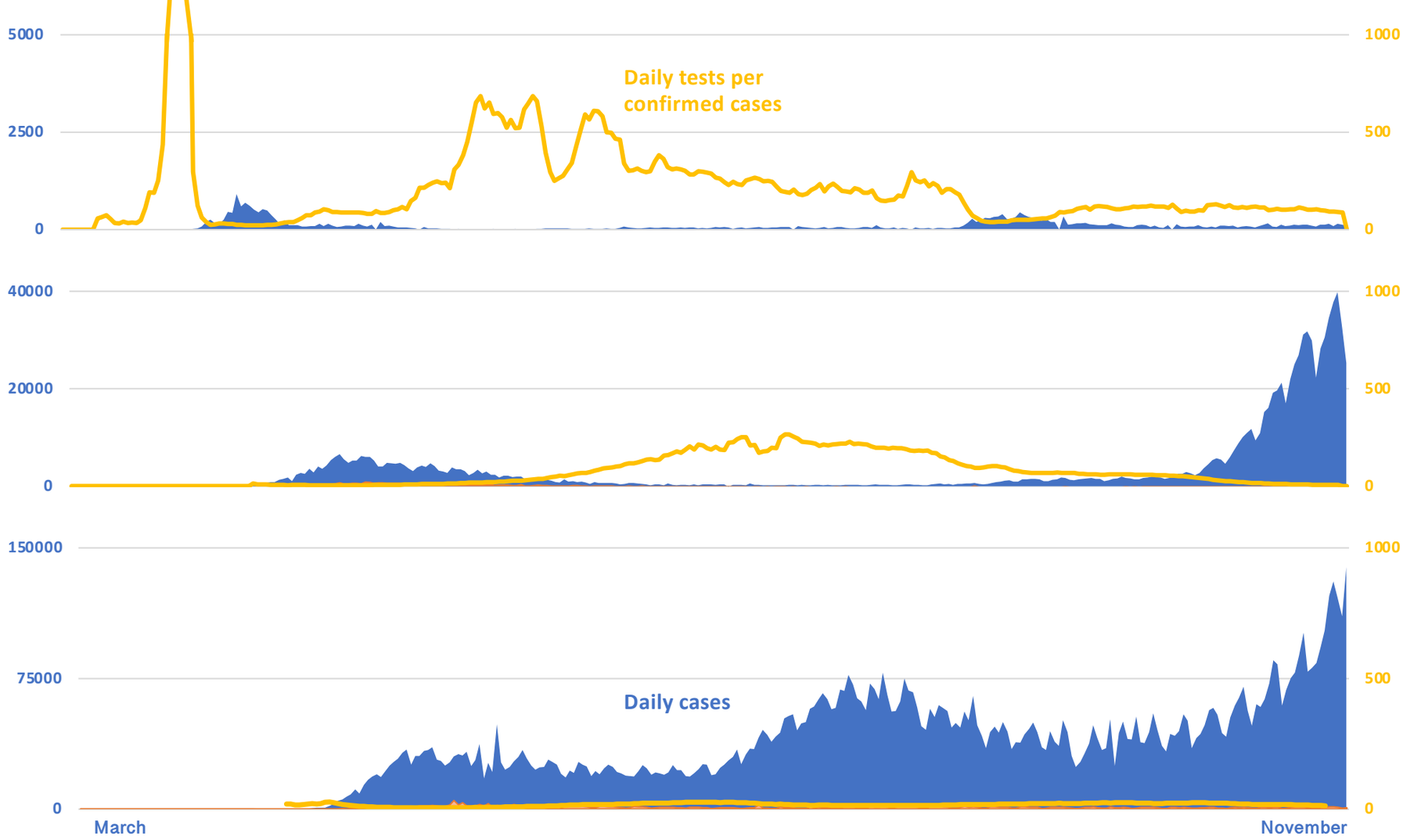
Timeline of Covid-19 as we close in on a long year of the coronavirus pandemic



DATA SOURCE: American Journal of Managed Care / World Health Organization / Johns Hopkins University

A Tale of Three Countries

South Korea launched testing and contact tracing operations early; Italy and the United States expanded only after deaths



DATA SOURCE: Our World in Data, ECDC

The Fallacy of Comparison

Covid-19 has proven to **not** be 'just a bad case of the flu…'

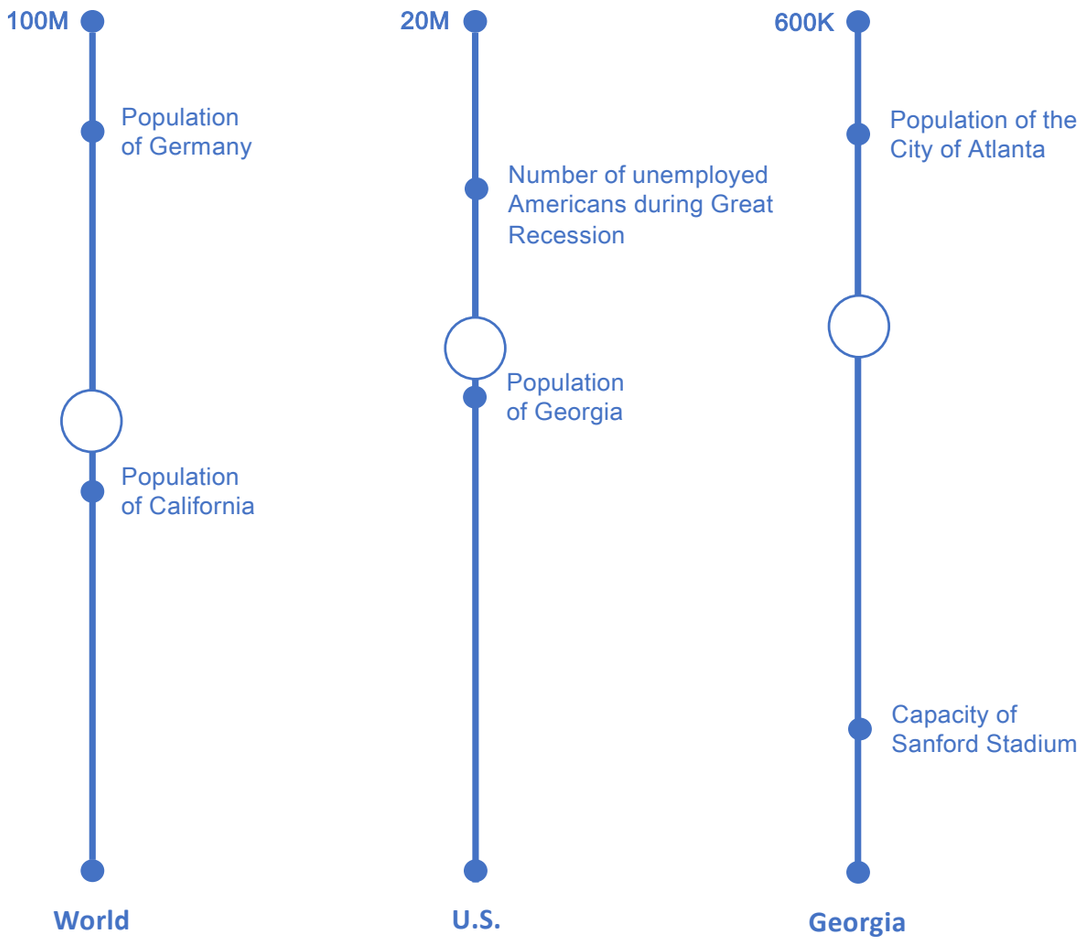
	"Spanish" Flu (1918)	H1N1 (2009)	Seasonal Flu (2018)	COVID-19 (2020)
U.S. Cases	28.6M	61M	36M	1M
U.S. Deaths	675K	13K	34K	230K
Mortality Rate	2.36%	0.02%	0.09%	2.3%
Hospitalizations	-	274K	490K	497K
Hospitalization Rate	-	0.45%	1.1%	4.9%

DATA SOURCE: Centers for Disease Control & Prevention / COVID Tracking Project
NOTE: Estimations of 2018 Spanish Flu impacts based on extrapolation of US Census Bureau data and worldwide reported data

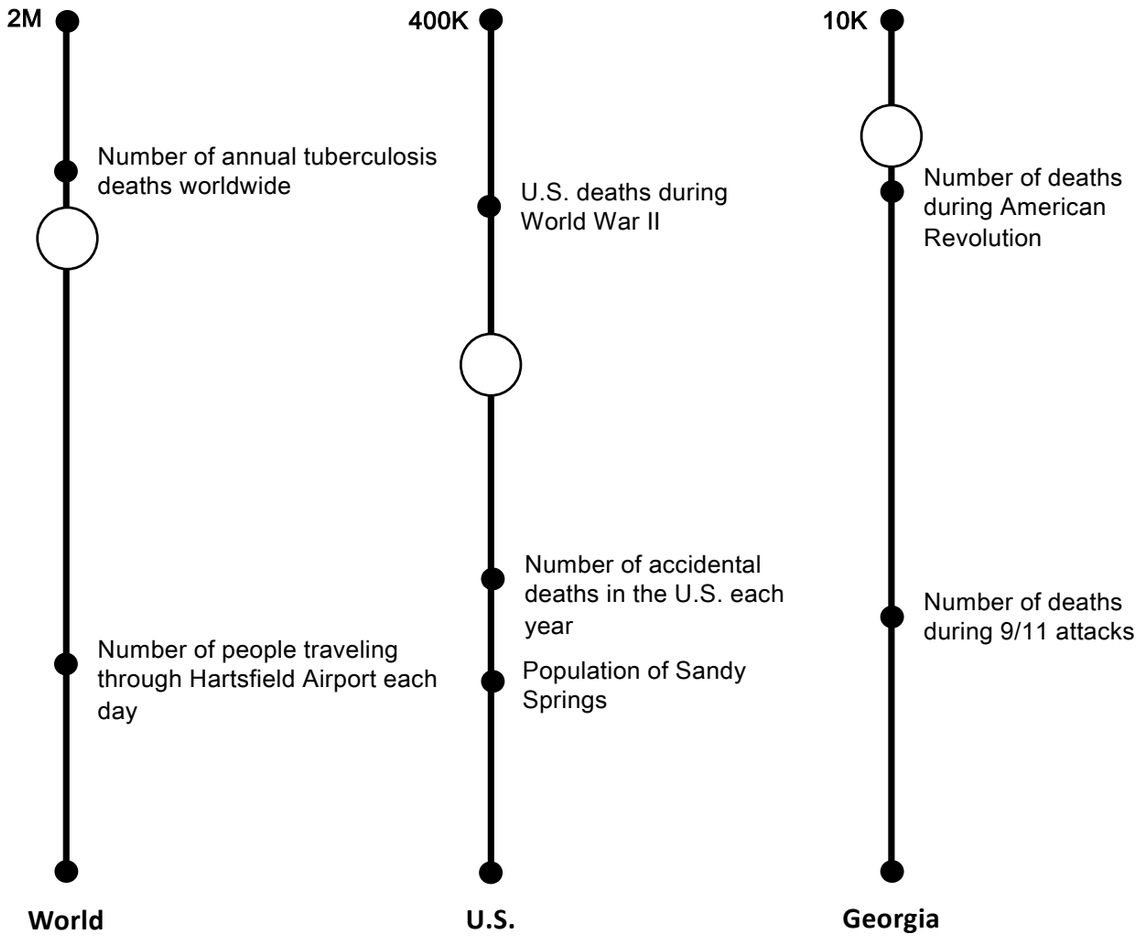
Putting It All In Perspective

Understanding the impact of Covid-19 is easier when referenced against more popular figures

CASES



DEATHS



DATA SOURCE: COVID Tracking Project / Worldometer.com / Georgia Secretary of State / University of Georgia

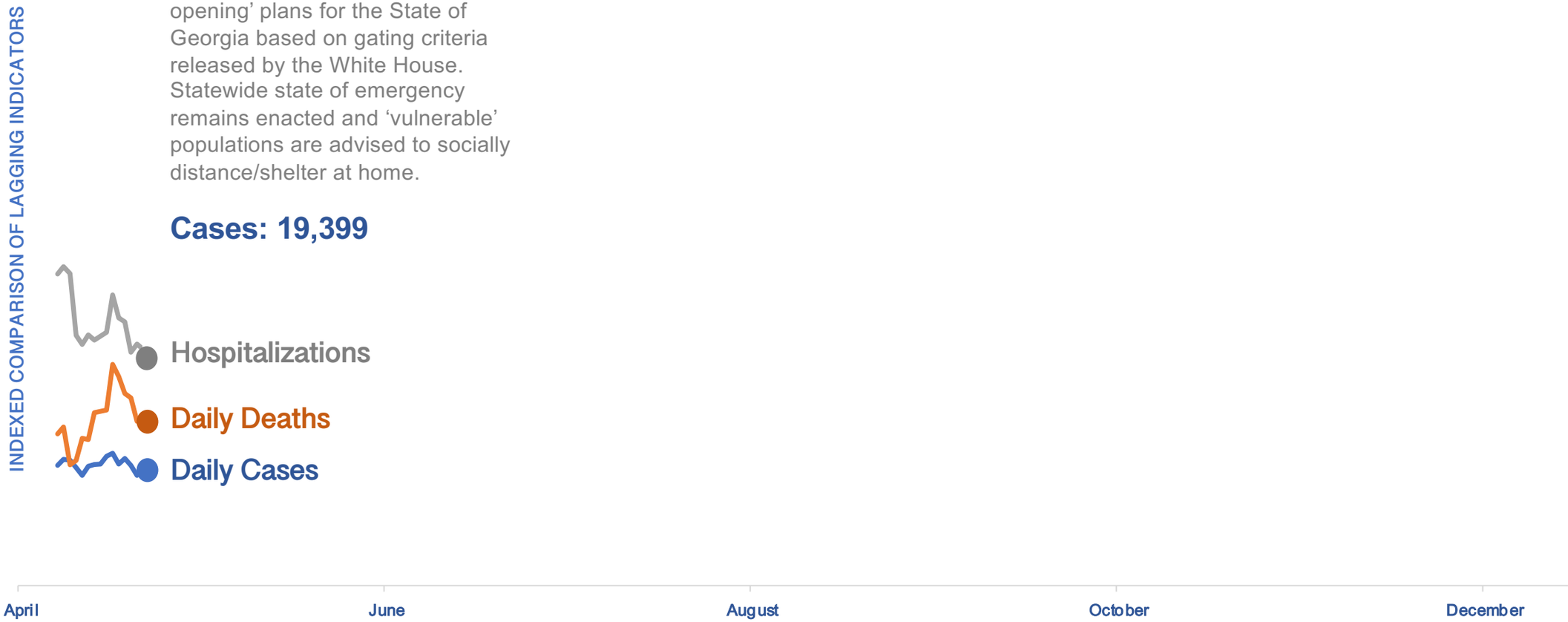
Indicators of Tragedy

Impact of governmental decision in Georgia on the progression of the pandemic burden

April 20th

Gov. Brian Kemp announces 're-opening' plans for the State of Georgia based on gating criteria released by the White House. Statewide state of emergency remains enacted and 'vulnerable' populations are advised to socially distance/shelter at home.

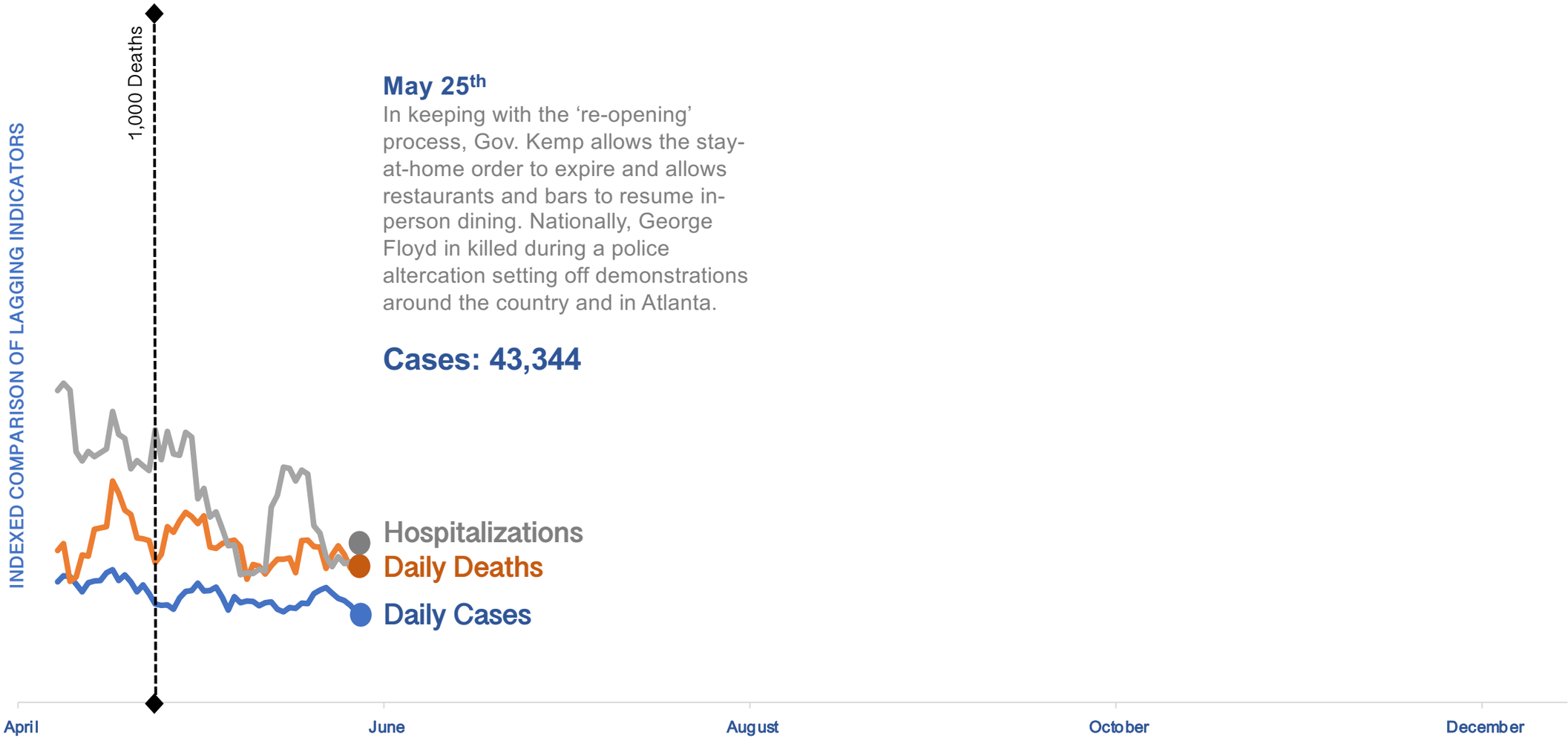
Cases: 19,399



DATA SOURCE: COVID Tracking Project / Georgia Department of Public Health / Johns Hopkins University & Medicine
NOTE: Values indexed for comparison and scaled at 7-day moving average

Indicators of Tragedy

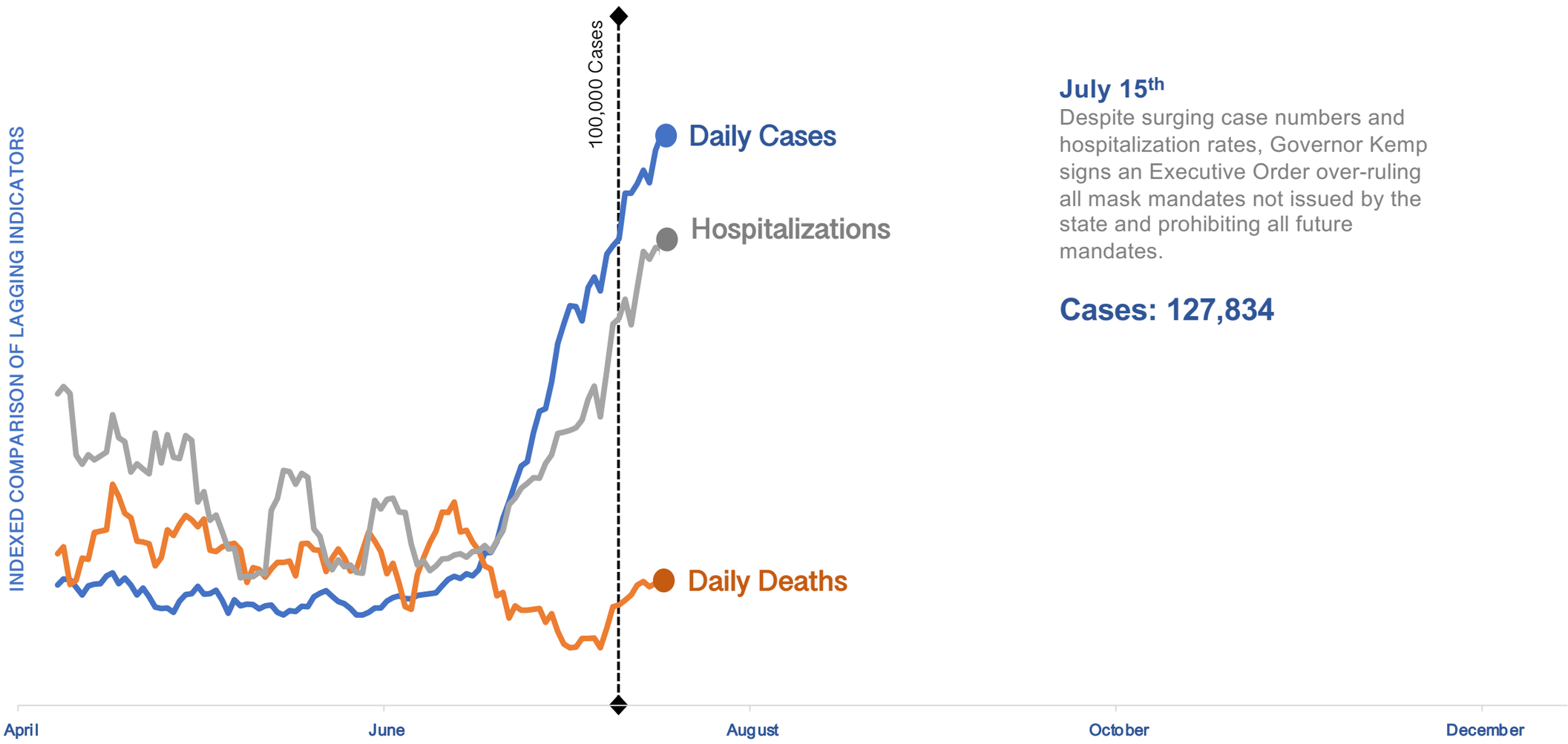
Impact of governmental decision in Georgia on the progression of the pandemic burden



DATA SOURCE: COVID Tracking Project / Georgia Department of Public Health / Johns Hopkins University & Medicine
NOTE: Values indexed for comparison and scaled at 7-day moving average

Indicators of Tragedy

Impact of governmental decision in Georgia on the progression of the pandemic burden



July 15th

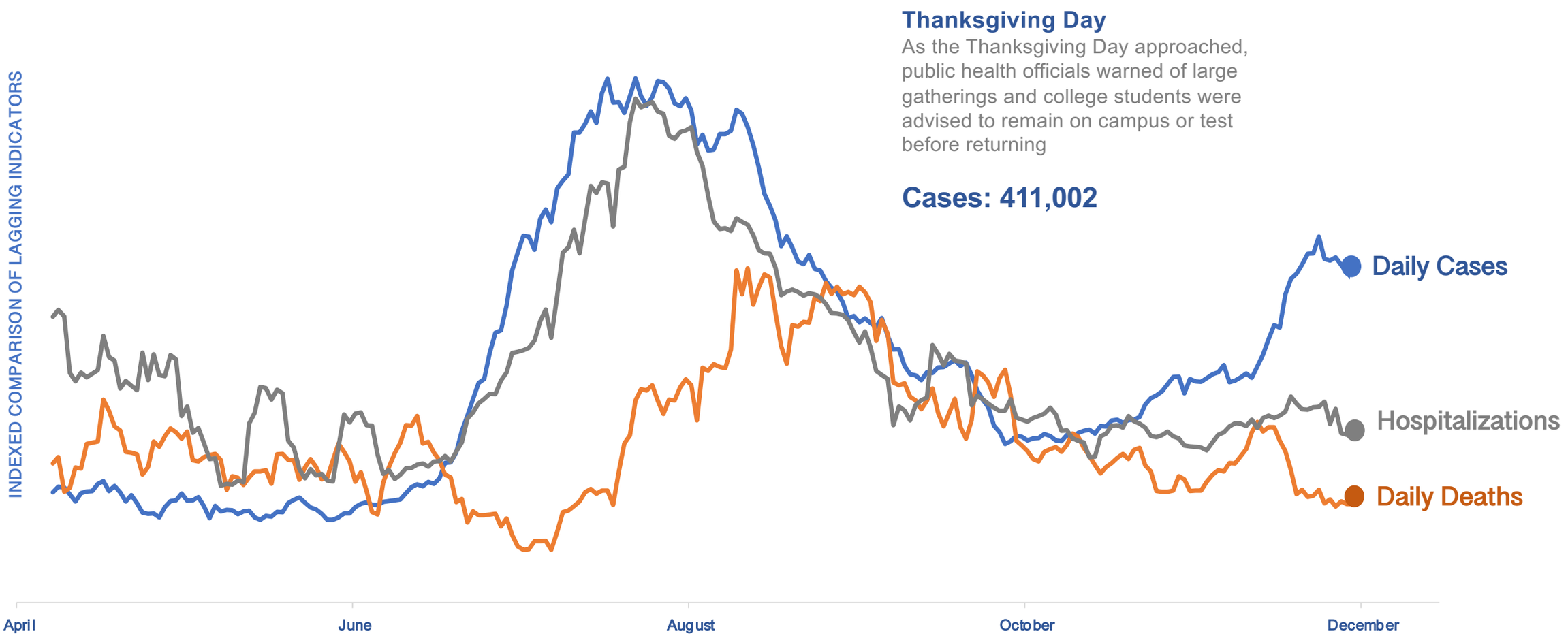
Despite surging case numbers and hospitalization rates, Governor Kemp signs an Executive Order over-ruling all mask mandates not issued by the state and prohibiting all future mandates.

Cases: 127,834

DATA SOURCE: COVID Tracking Project / Georgia Department of Public Health / Johns Hopkins University & Medicine
NOTE: Values indexed for comparison and scaled at 7-day moving average

Indicators of Tragedy

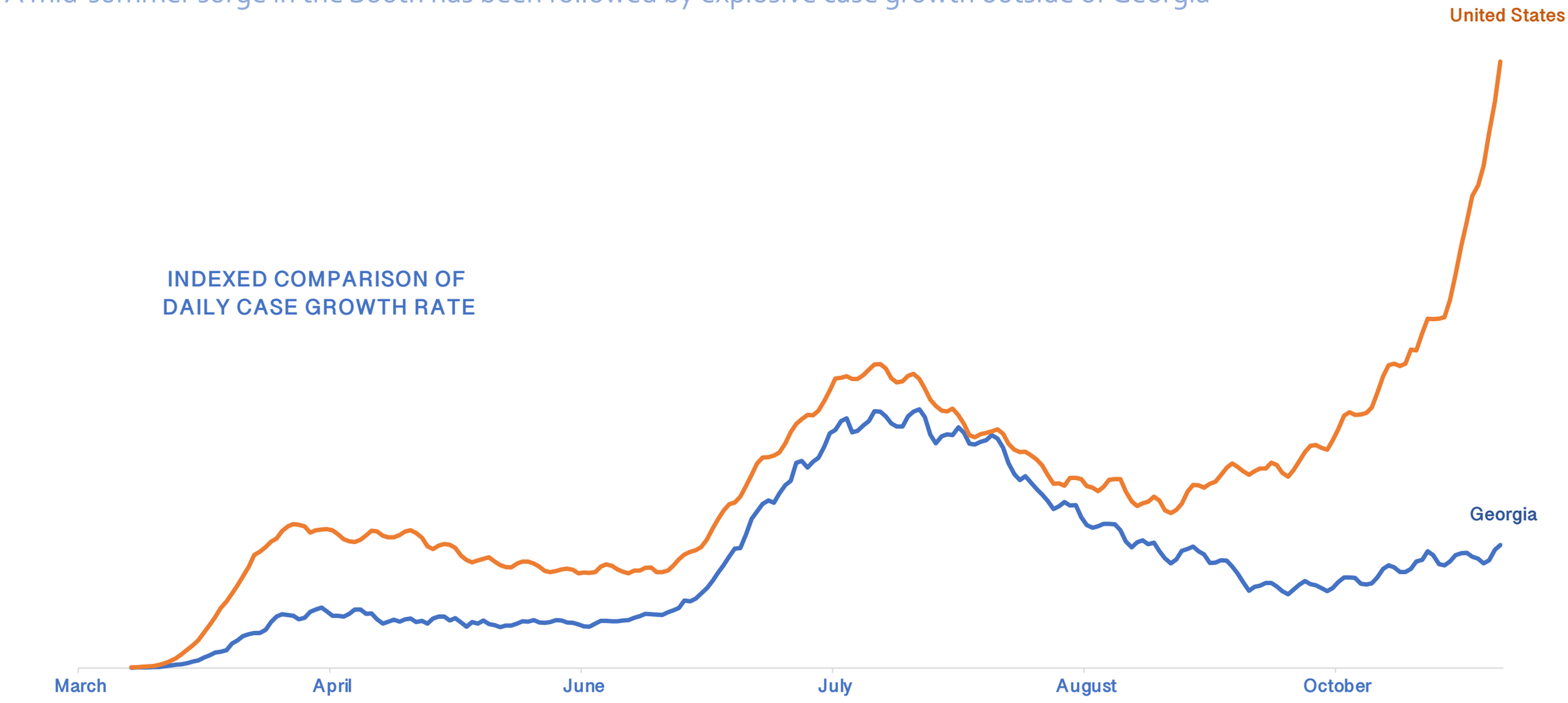
Impact of governmental decision in Georgia on the progression of the pandemic burden



DATA SOURCE: COVID Tracking Project / Georgia Department of Public Health / Johns Hopkins University & Medicine
NOTE: Values indexed for comparison and scaled at 7-day moving average

“Misery Loves Company…” (- John Ray)

A mid-summer surge in the South has been followed by explosive case growth outside of Georgia

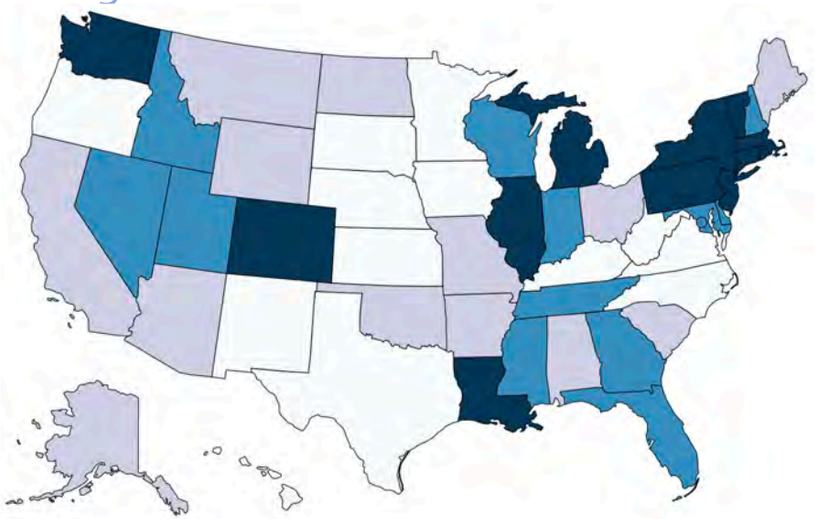


DATA SOURCE: COVID Tracking Project / Georgia Department of Public Health / Johns Hopkins University & Medicine
NOTE: Values indexed for comparison and scaled at 7-day moving average

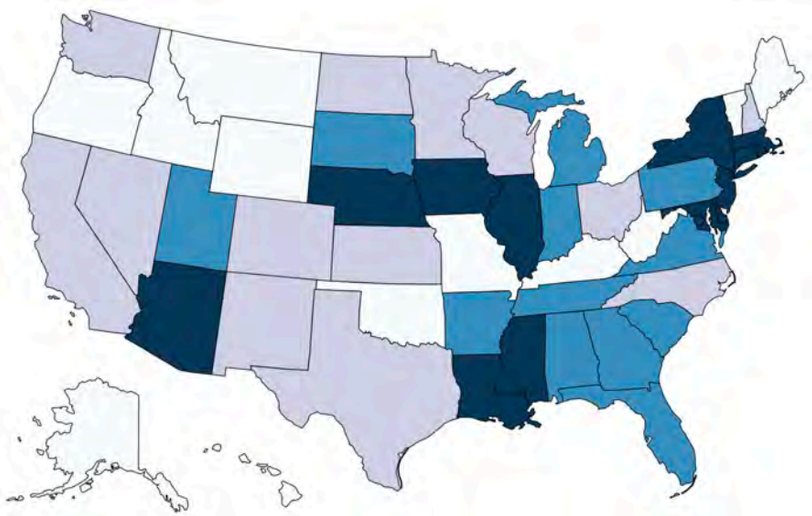
The Covid-19 Migratory Pattern

What started on the East Coast became a mid-summer surge in the South and has been followed by explosive case growth outside of Georgia

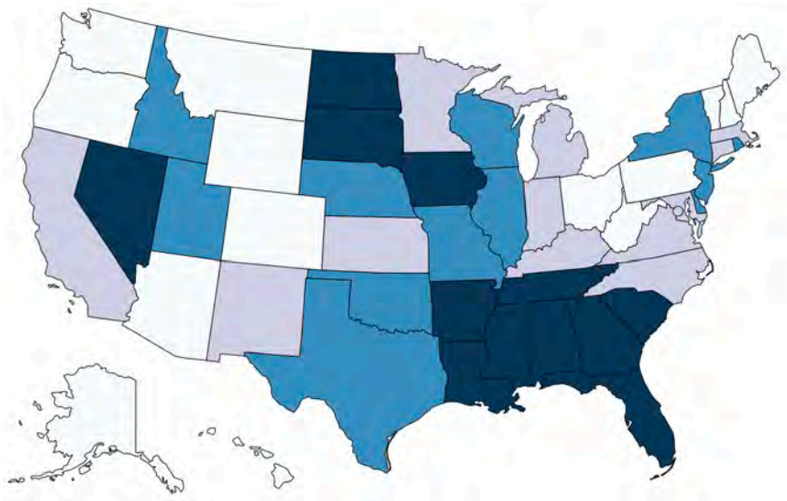
April



June



October

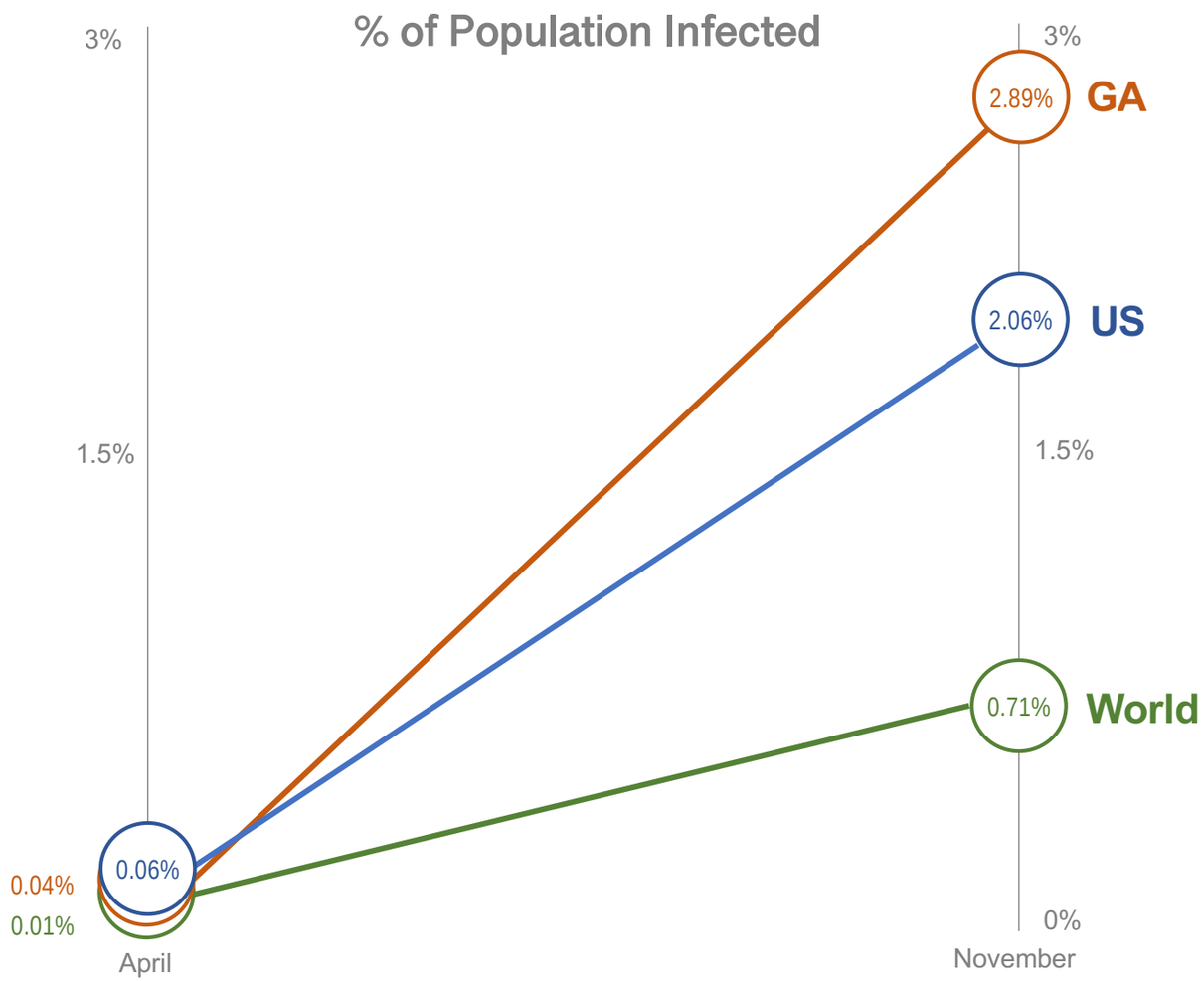


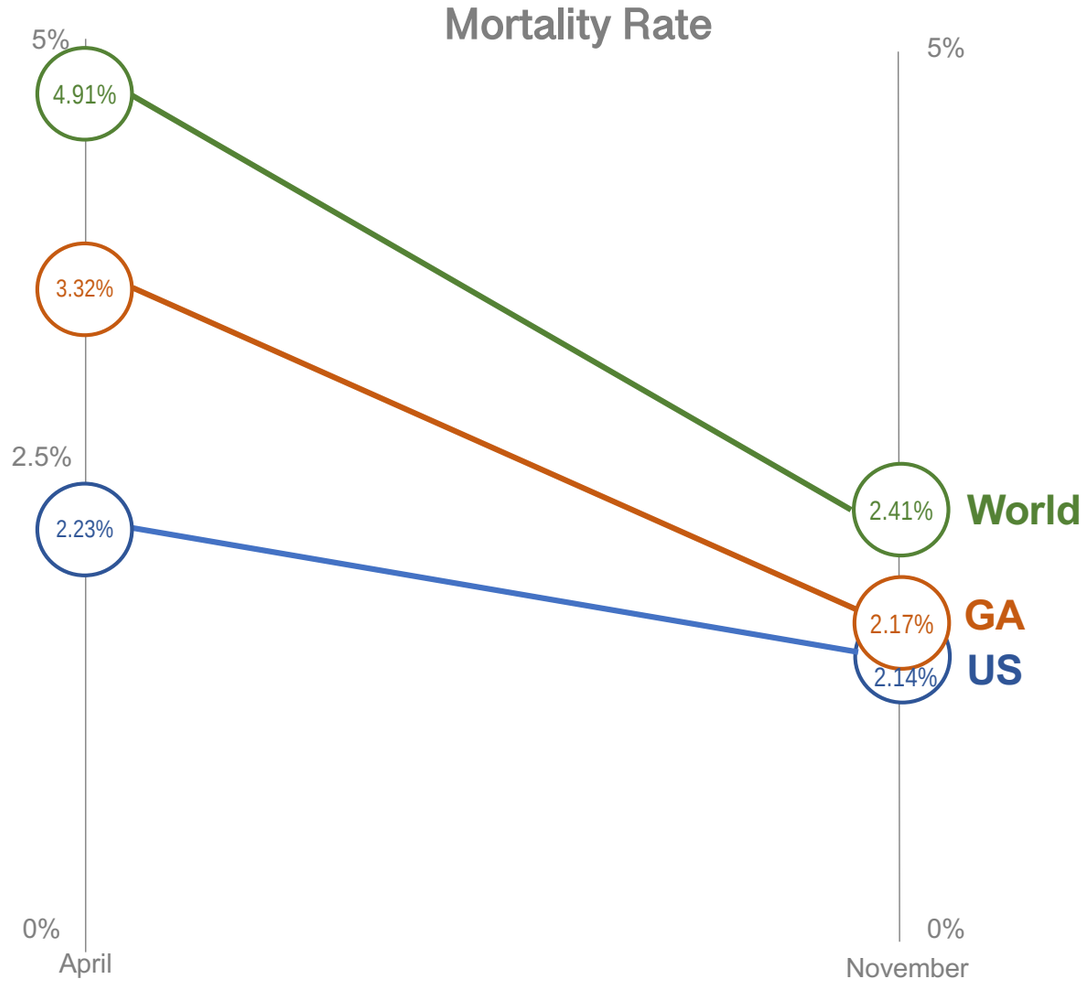
January

DATA SOURCE: COVID Tracking Project / United States Census Bureau

More Are Sick, But Fewer are Dying

As the pandemic continues to spread through our state, the country and around the world, fatality rate has consistently fallen

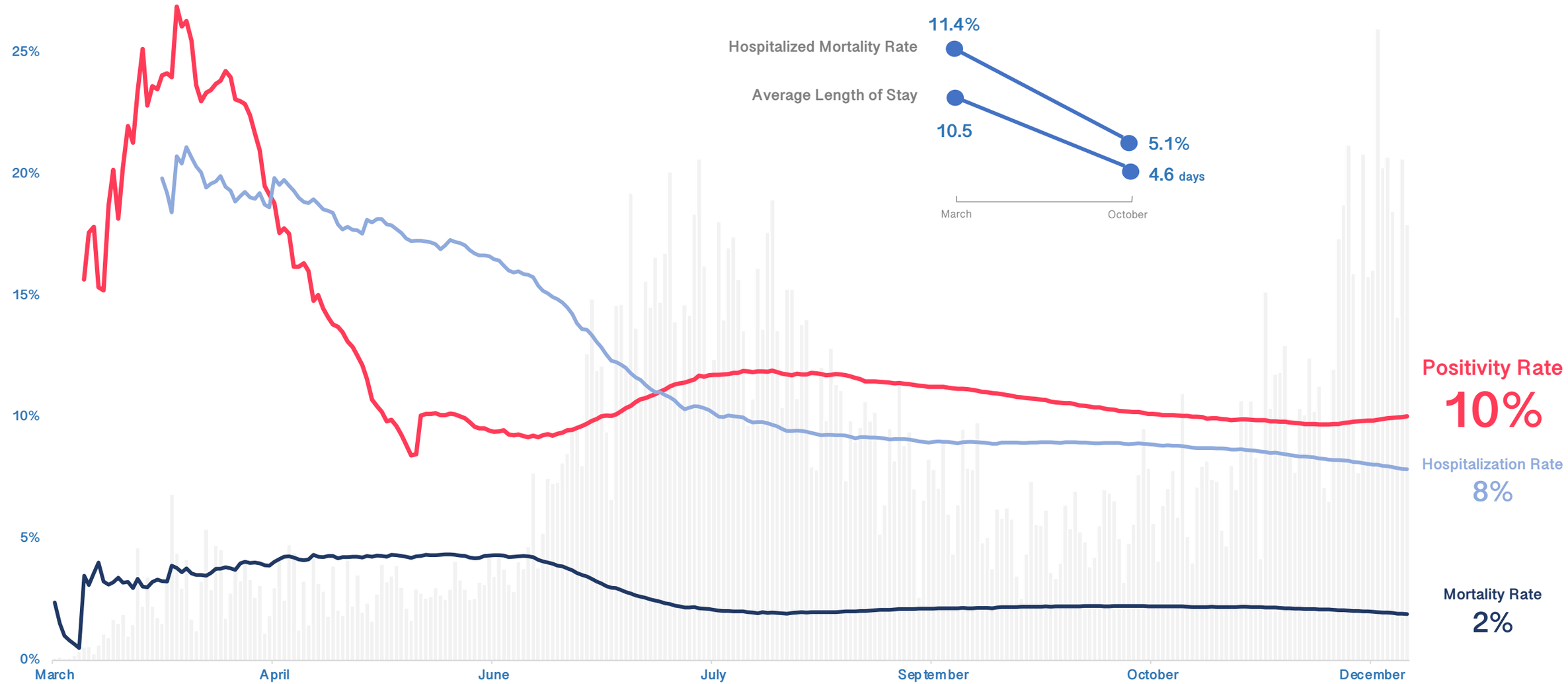




DATA SOURCE: COVID Tracking Project / United States Census Bureau / Our World in Data

Some Things Are Becoming Positively Clear...

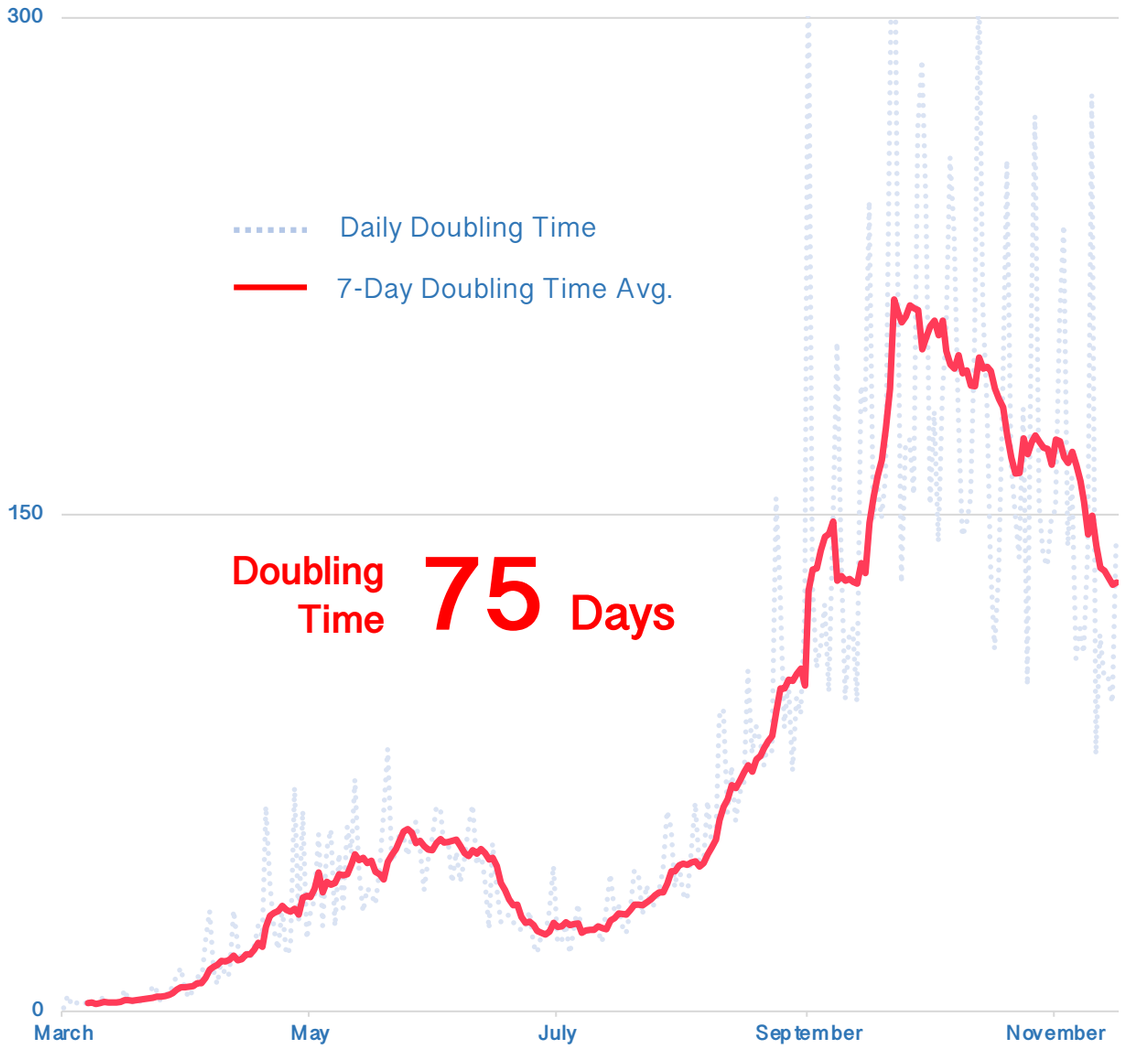
Time has brought some clarity to the ongoing impact of the pandemic

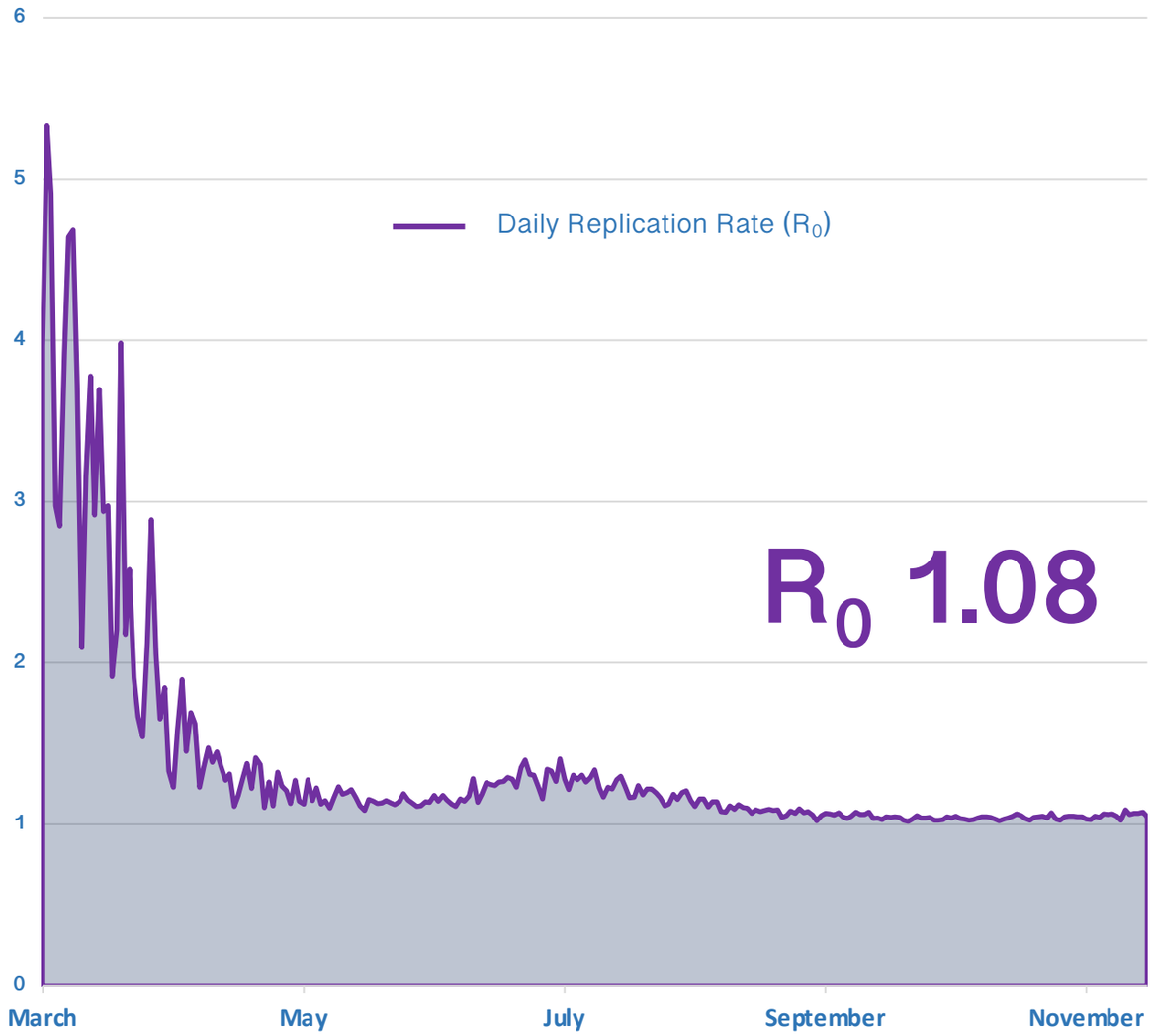


DATA SOURCE: COVID Tracking Project / Georgia Department of Public Health / Johns Hopkins University & Medicine

Back to Epidemiology Class

Two of the more common infectious disease benchmarks show continued promise

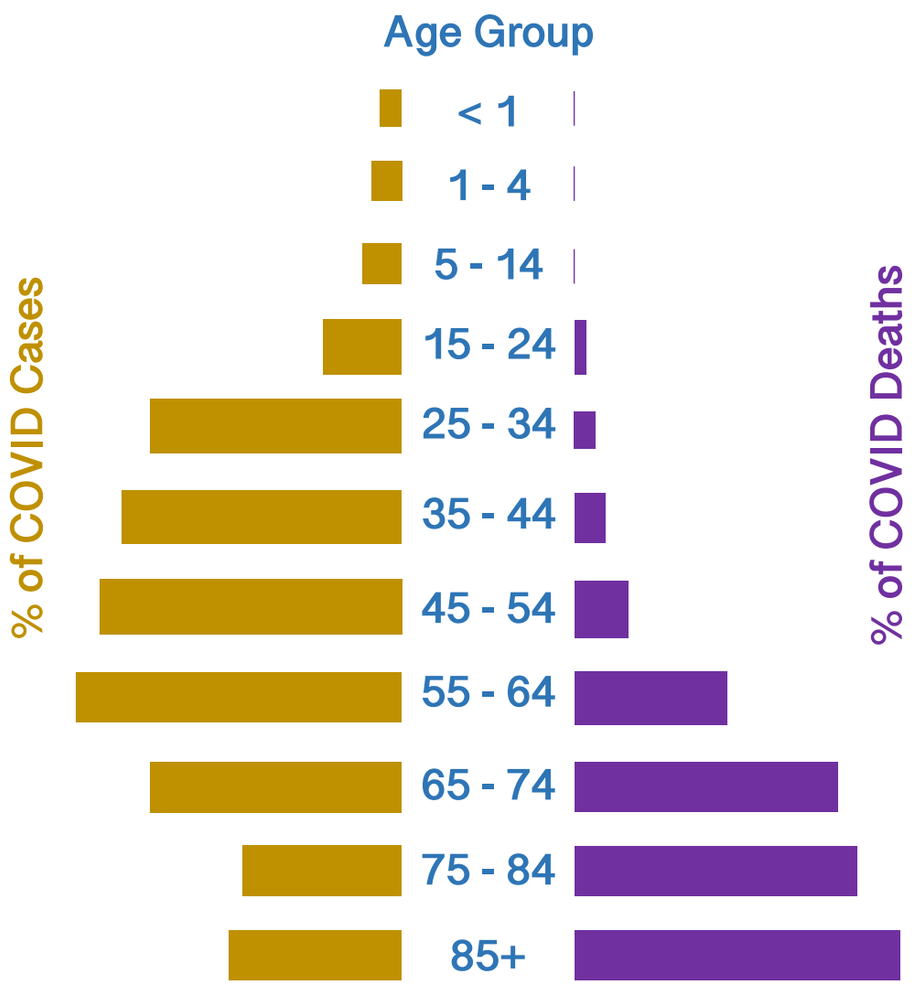


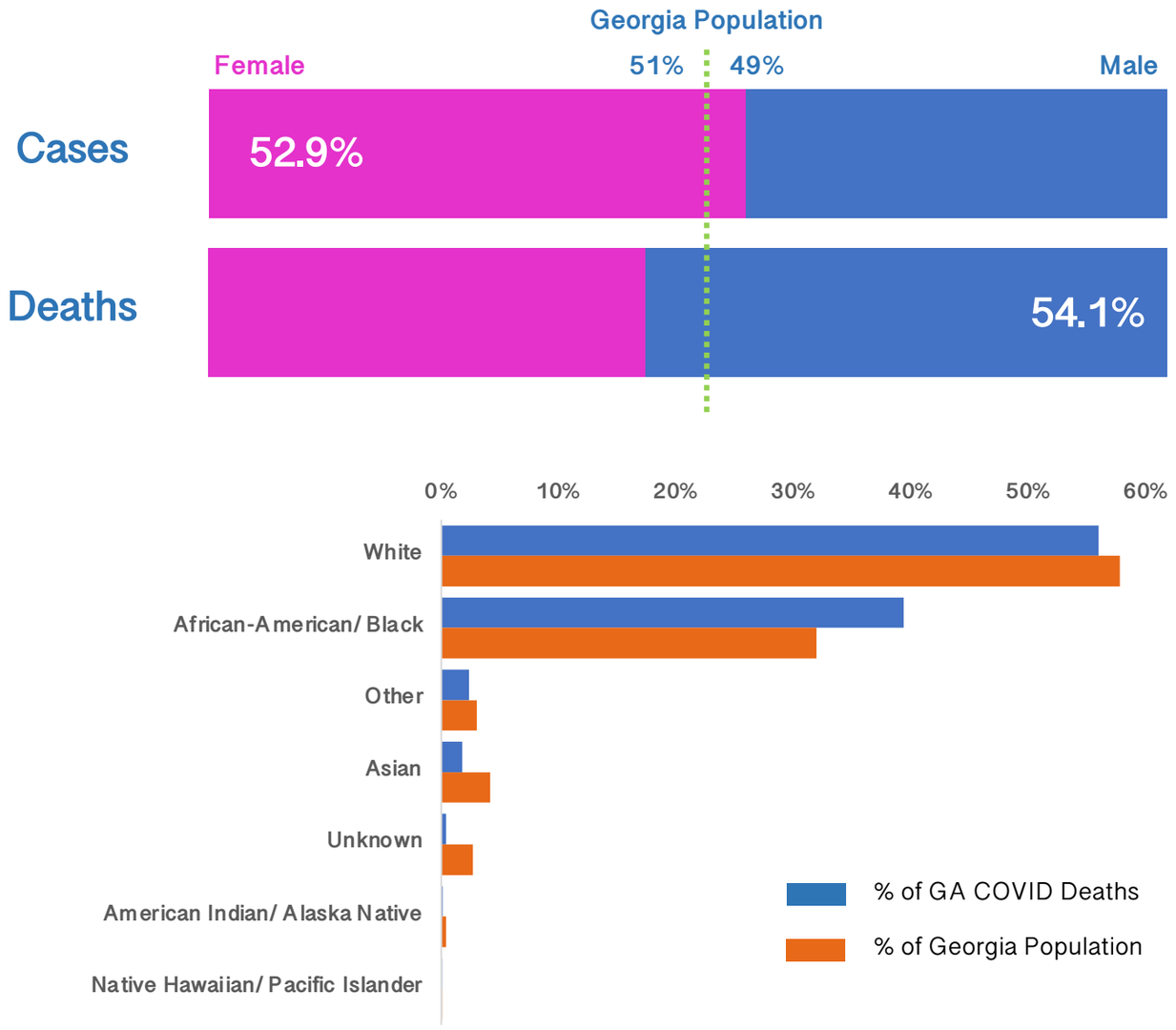


DATA SOURCE: COVID Tracking Project / Georgia Department of Public Health / Johns Hopkins University & Medicine

“COVID Doesn’t Discriminate”…or Does It?

The pandemic is teaching us some specific information about the most vulnerable populations

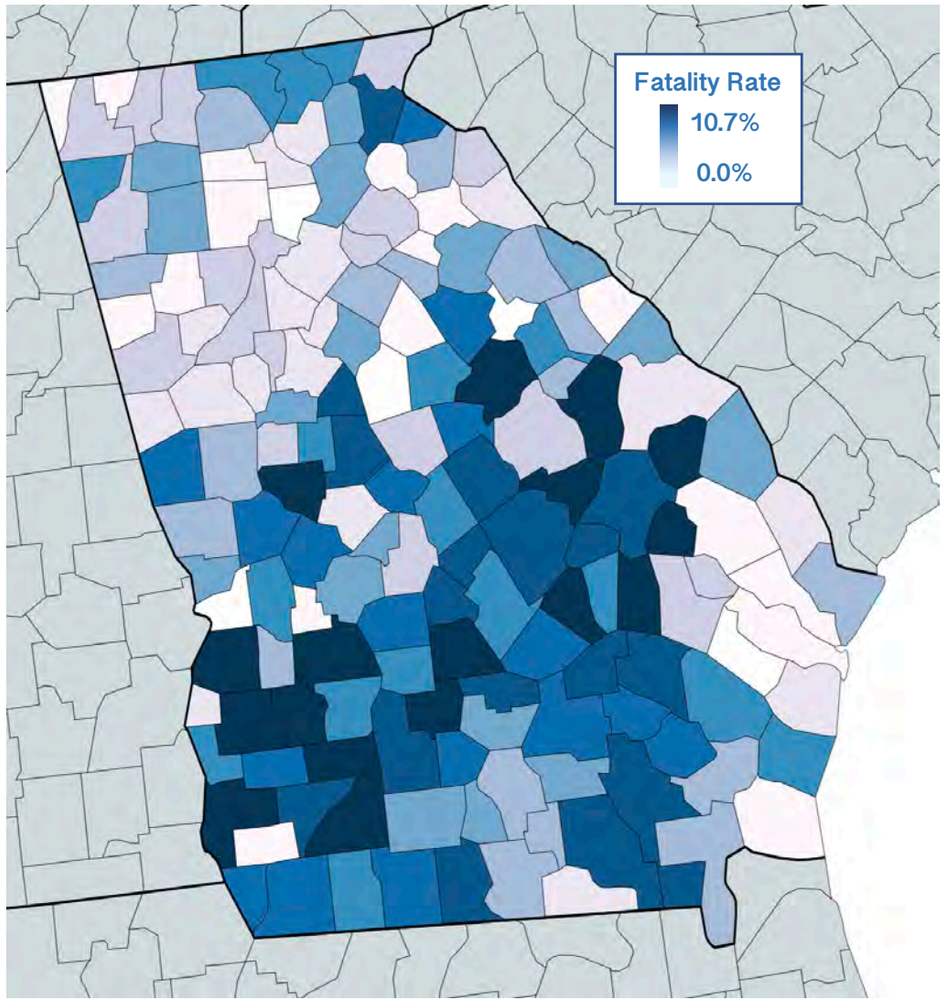


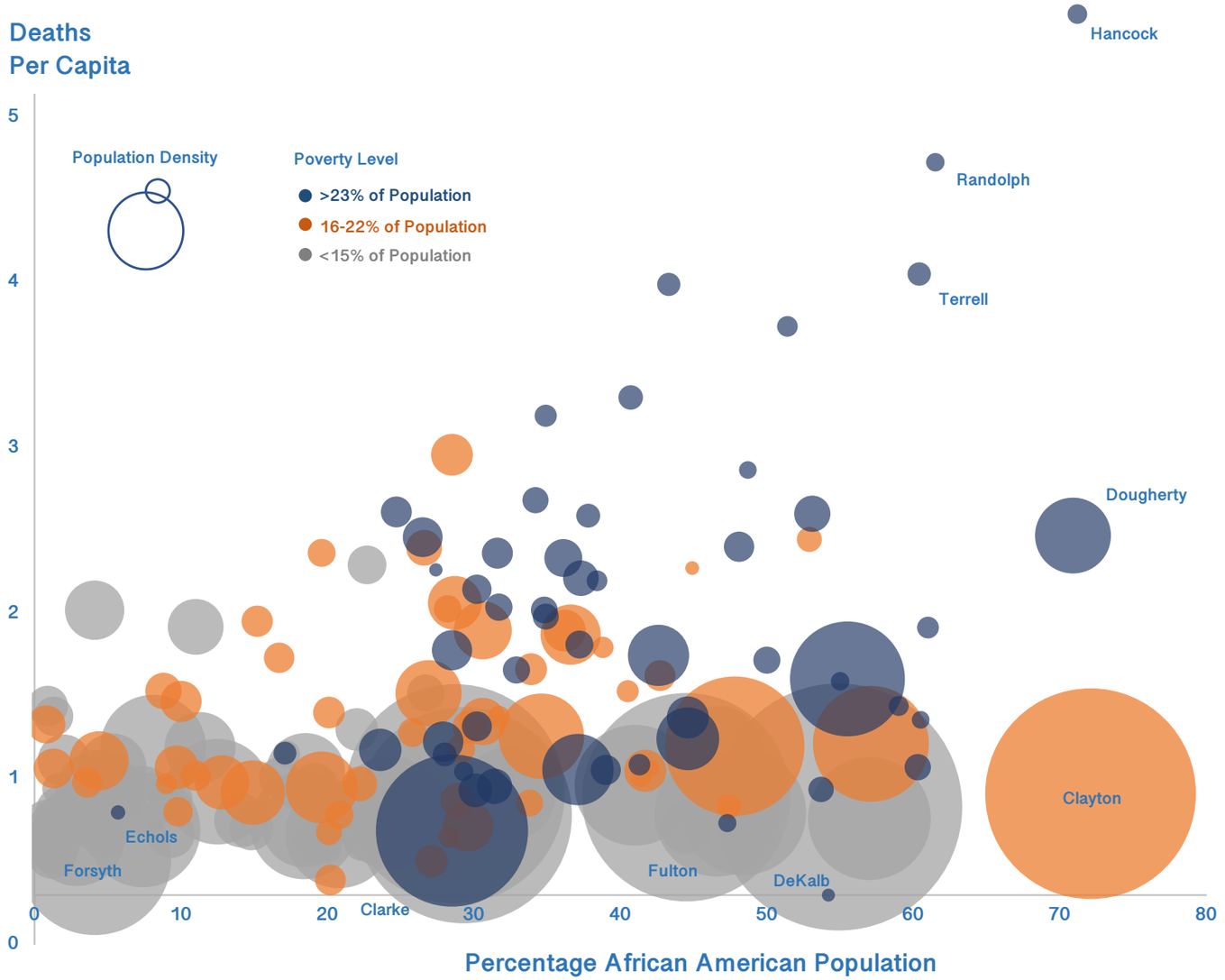


DATA SOURCE: Centers for Disease Control & Prevention / MedScape / Georgia Department of Public Health

“COVID Doesn’t Discriminate”...or Does It?

The pandemic is teaching us some specific information about the most vulnerable populations

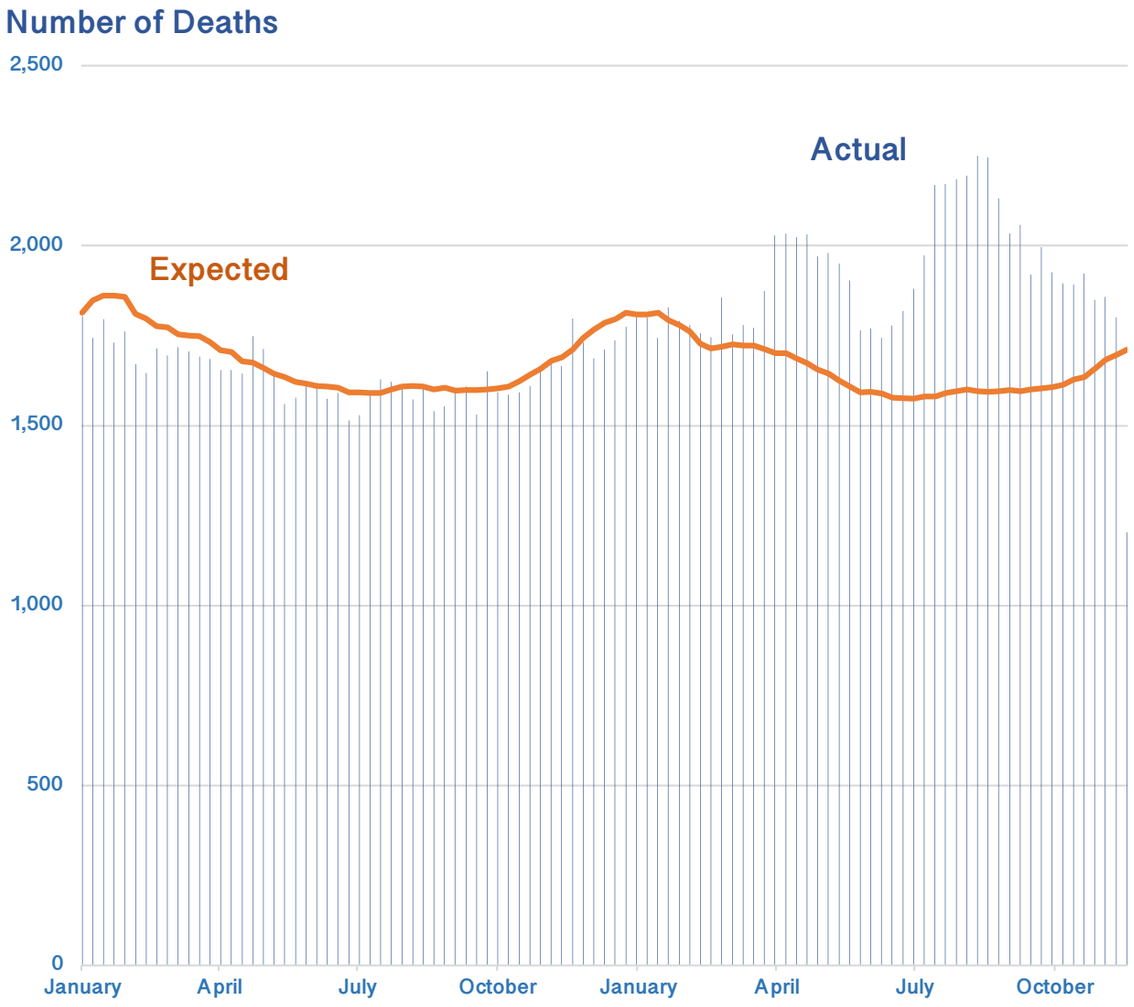


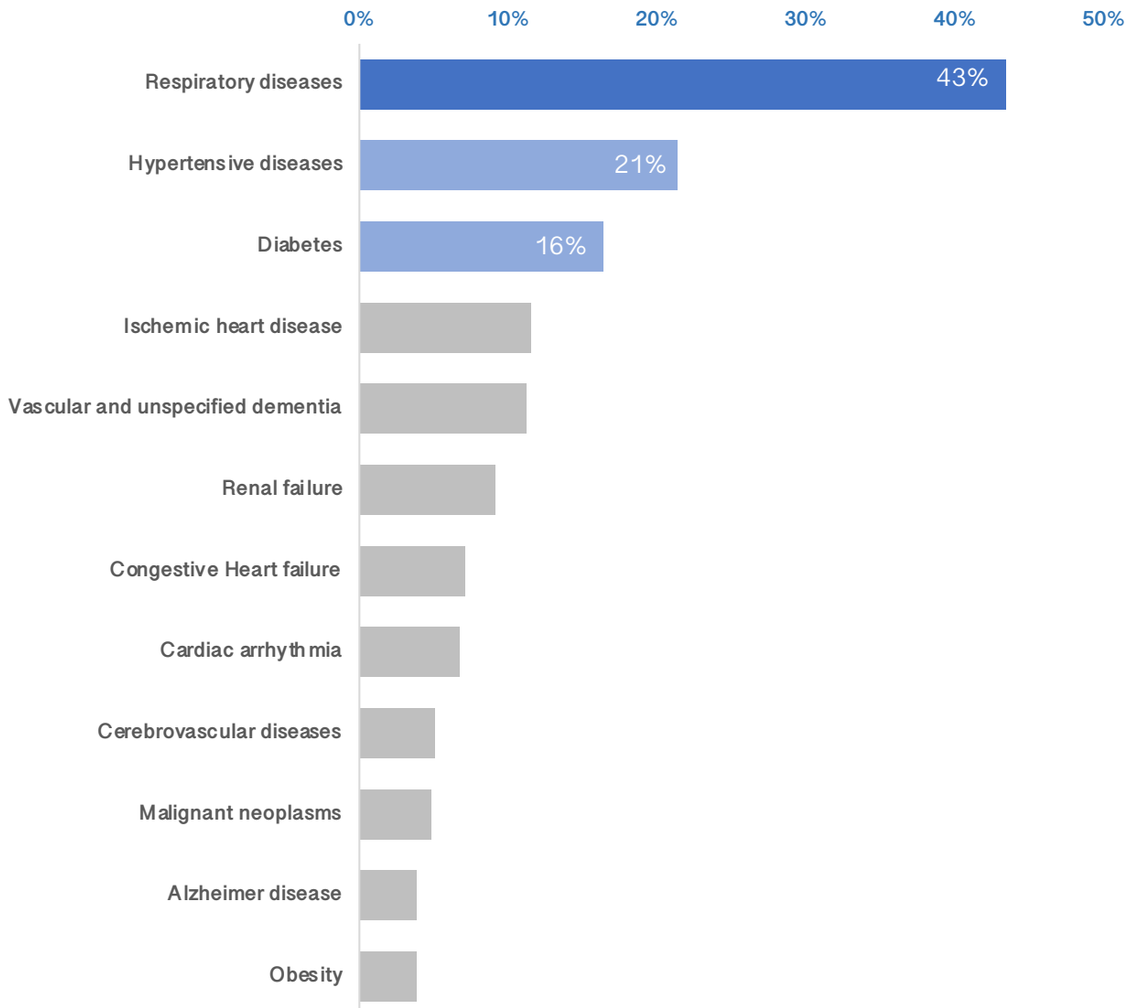


DATA SOURCE: COVID Tracking Project / Georgia Department of Public Health / U.S. Census Bureau

Understanding the Vulnerable

Demographics tell us *who* and *where*, but contributory disease is the *how* and *what* is causing excess mortality

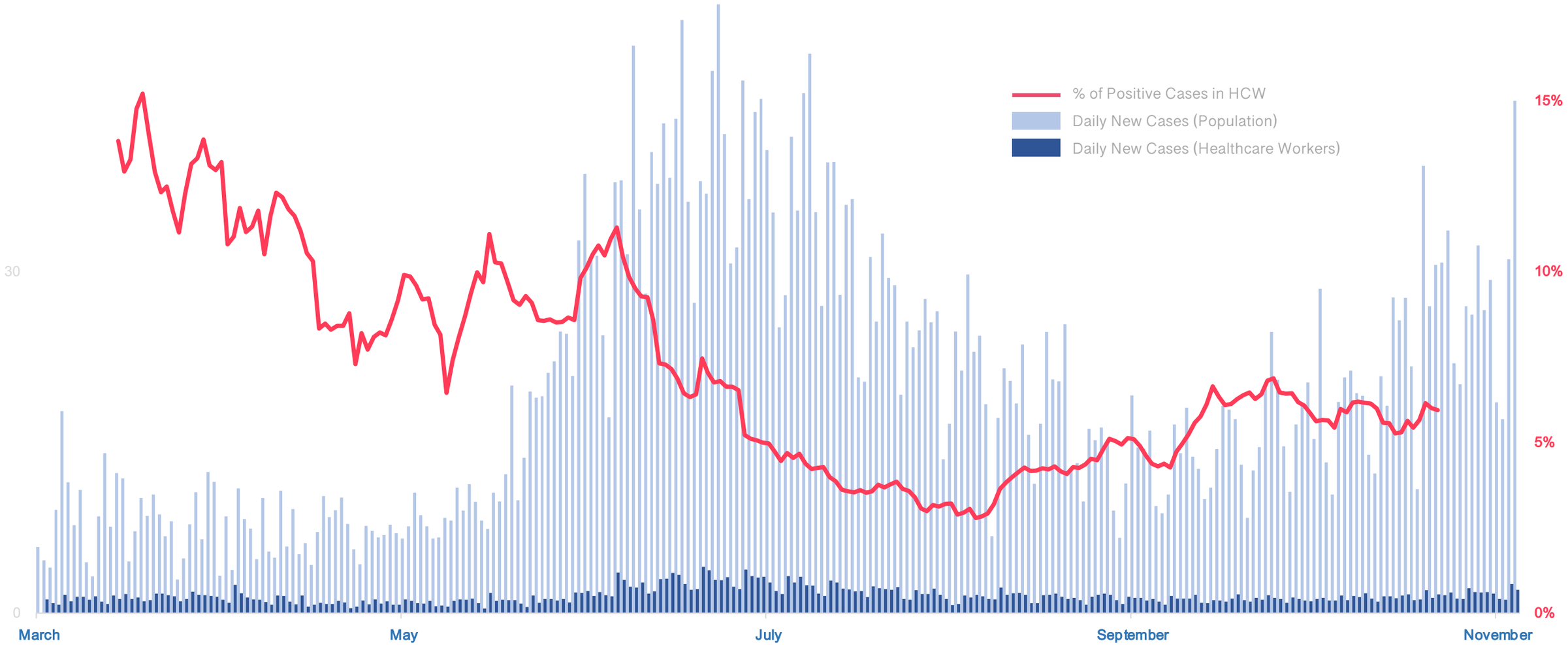




DATA SOURCE: Centers for Disease Control & Prevention

A Bit of Good News...

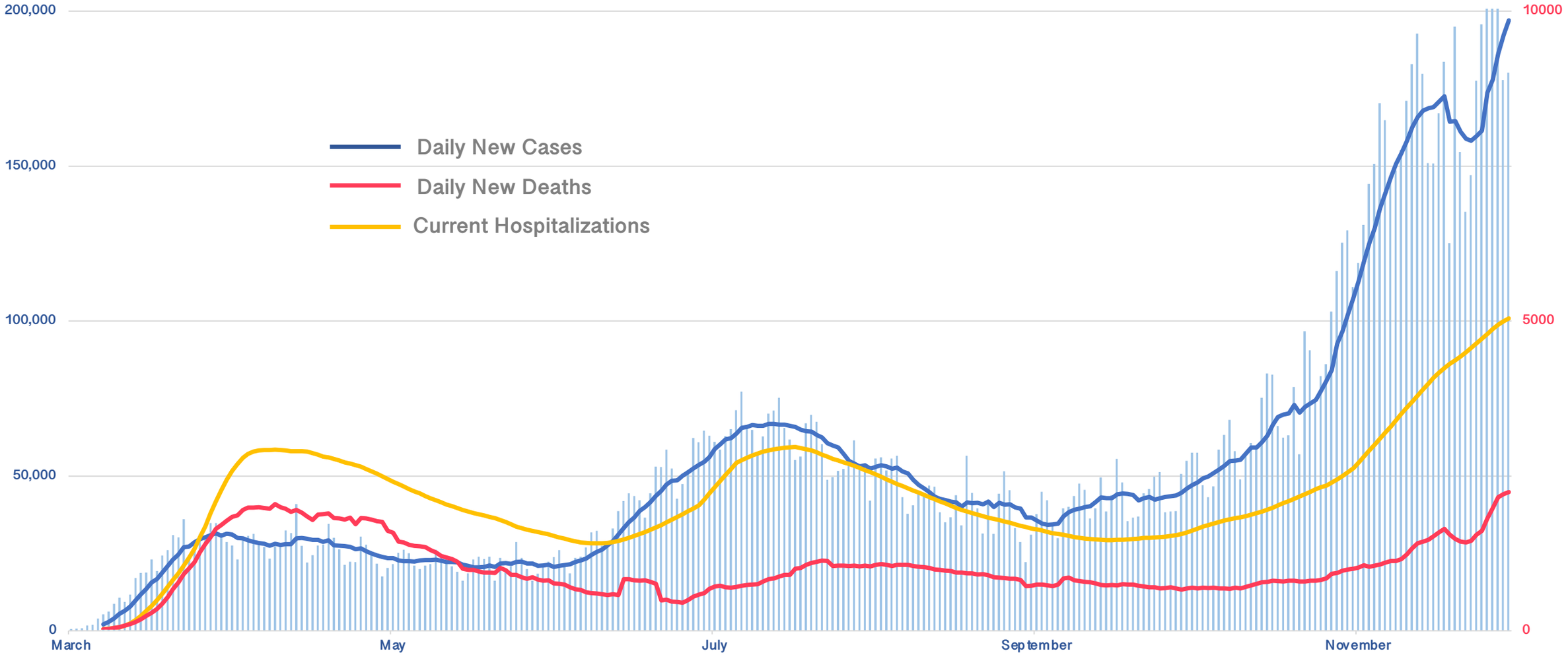
Several studies and tracking analysis reveals that healthcare workers are not contracting Covid-19 at rates any greater than the community population



DATA SOURCE: COVID Tracking Project / Georgia Department of Public Health

The Search for Solutions Continues…

From ED triage scorecards, vaccine development and leading indicator investigations, the race to stymie the pandemic scourge in the United States continues



DATA SOURCE: COVID Tracking Project / Georgia Department of Public Health

The Myth of Work Life Balance

Kathryn Glas, MD, MBA, FASE

Professor and Vice Chair, Anesthesiology

Emory University School of Medicine

What is “work life balance” anyway?

Work Life Balance video by The School of Life

The Harsh Reality of a Day

Work	Home	Self
10+ hours	Preparing 3 meals	Exercising for 30 minutes
Energetic & focused	Laundry & dishes	Bathing
Pleasant & collegial	Caring for pets	Eating 3 healthy meals
Putting patients first	Kids' homework	Putting self first
Commuting	Putting kids/partner first	Sleeping 7-9 hours
= 11 hours	= 3 hours	= 10 hours

The Harsh Reality of a Day

Work	Home	Self
10+ hours	Preparing 3 meals	Exercising for 30 minutes
Energetic & focused	Laundry & dishes	Bathing
Pleasant & collegial	Caring for pets	Eating 3 healthy meals
Putting patients first	Kids' homework	Putting self first
Commuting	Putting kids/partner first	Sleeping 7-9 hours
= 11 hours	= 3 hours	= 10 hours

Characteristics of Physicians

- Highly motivated
- Perfectionist
- Feels shame at poor outcomes
- Struggles with boundary setting
- Compassionate
- Ethical
- Good communicator
- Honest
- Competent
- Committed
- Courage

Image source: https://www.mdlinx.com/article/do-you-have-the-10-qualities-that-make-a-good-doctor/lfc-2631

The Physician's Experience in the Healthcare System

Putting individuals with these characteristics into this kind of system results in burnout & moral injury

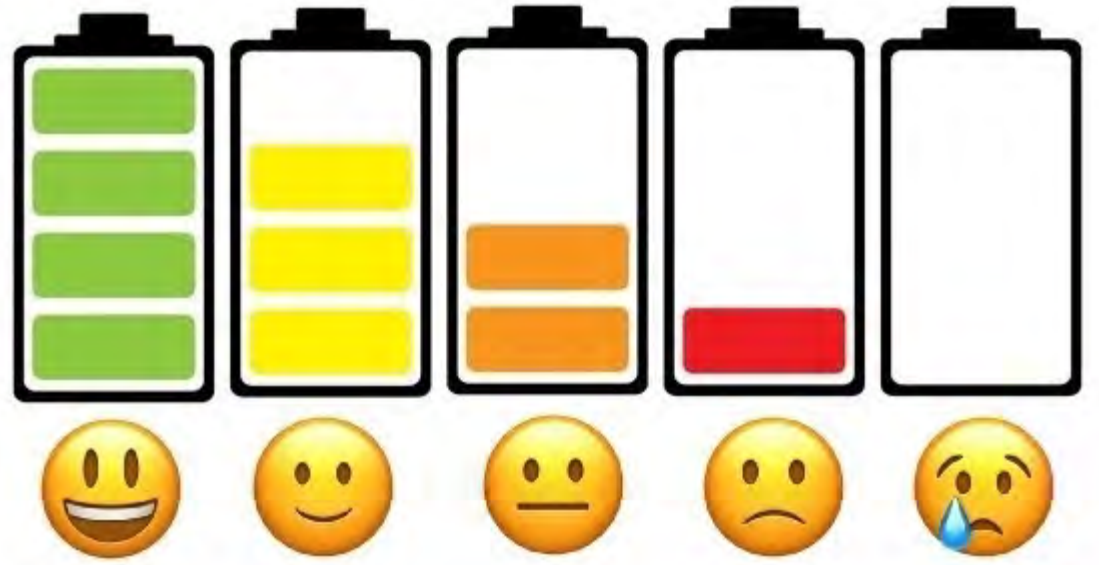
Burnout results from chronic overloading (stress) of the body’s nervous and endocrine systems without adequate time and tools to recover

Image Source: https://www.thereminder.ca/opinion/local-angle/in-our-words-on-covid-19-burnout-and-how-to-fix-what-s-broken-1.24205437

Burnout is insidious.

An individual suffering from burnout may not be aware of it until in a more advanced stage.

It progresses from early warning signs to full-blown burnout.



Do any of these signs look familiar to you?

Stage 1: **The Compulsion to Prove Oneself**

Demonstrating worth obsessively, enthusiastic, accepts responsibility readily

Stage 2: **Working Harder**

Inability to switch off

Stage 3: **Neglecting Needs**

Erratic sleeping, eating disrupted, lack of social interaction

Stage 4: **Displacement of Conflicts**

Problems are dismissed; feel threatened, panicky, and jittery

Source: 12-stage model of burnout developed by psychologists Herbert Freudenberger and Gail North

Do any of these signs look familiar to you?

Stage 5: **Revision of Values**

Friends and family dismissed; hobbies seen as irrelevant; work is the only focus

Stage 6: **Denial of Emerging Problems**

Intolerance; blaming others as stupid, lazy, demanding, or undisciplined; cynicism, aggression;

Stage 7: **Withdrawal**

Social life small or nonexistent; need to feel relief from stress; may have turned to alcohol/drugs

Stage 8: **Odd Behavioral Changes**

Changes in behavior obvious; friends and family concerned

Source: 12-stage model of burnout developed by psychologists Herbert Freudenberger and Gail North

Do any of these signs look familiar to you?

Stage 9: **Depersonalization**

Seeing neither self nor others as valuable; no longer perceive own needs

Stage 10: **Inner Emptiness**

Feeling empty inside and seek to fill it with activities such as overeating, sex, alcohol, or drugs

Stage 11: **Depression**

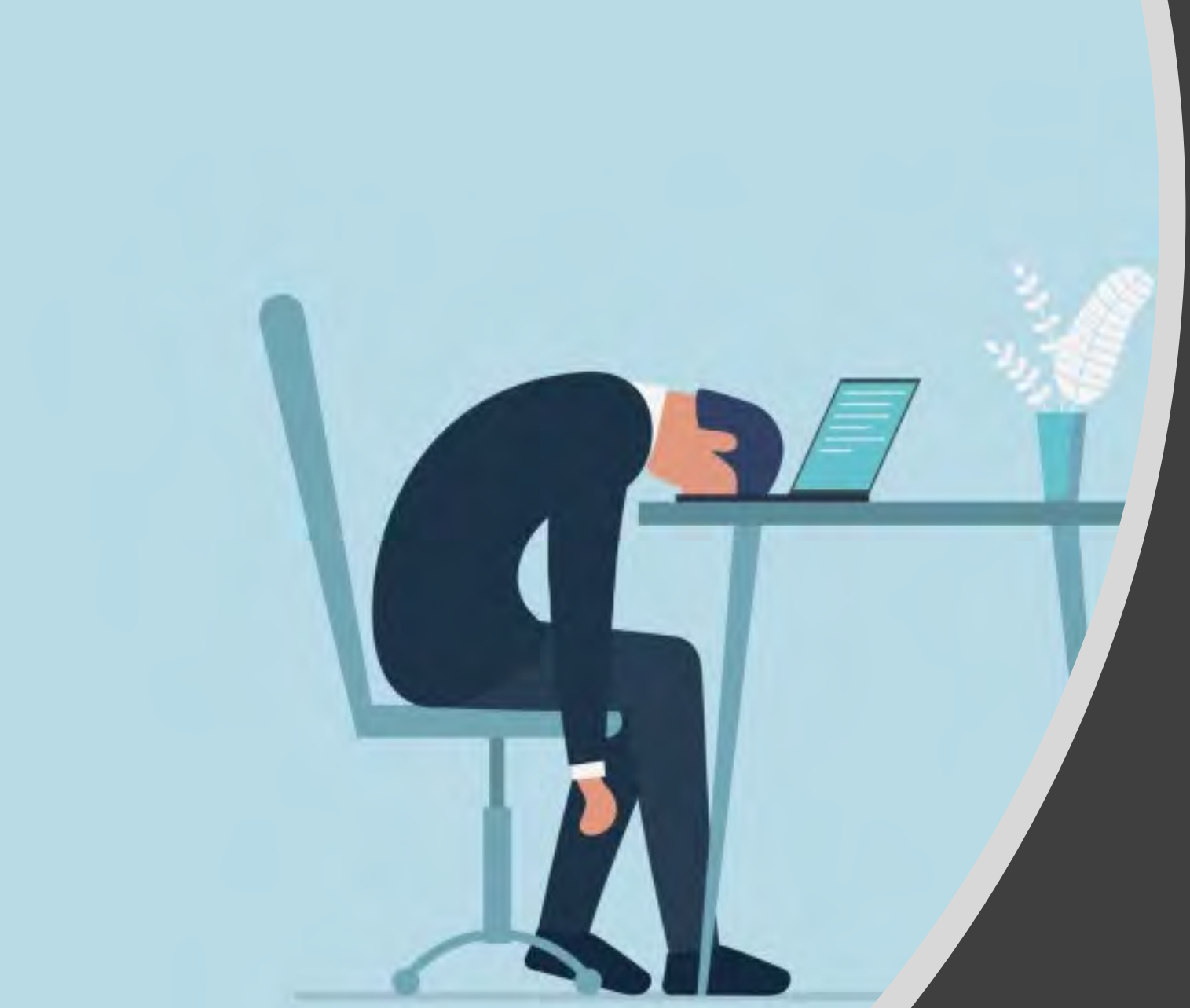
Feeling lost and unsure, exhausted; future feels bleak and dark

Stage 12: **Burnout Syndrome**

May include total mental and physical collapse; time for full medical attention

Source: 12-stage model of burnout developed by psychologists Herbert Freudenberger and Gail North


HOSPITAL



Moral injury results from physicians' inability to provide the care that they believe patients need due to factors outside of their control

Image Source: https://www.thereminder.ca/opinion/local-angle/in-our-words-on-covid-19-burnout-and-how-to-fix-what-s-broken-1.24205437

Factors that inhibit physicians' ability to care for patients in a way that aligns with their values

Burnout blames the physician

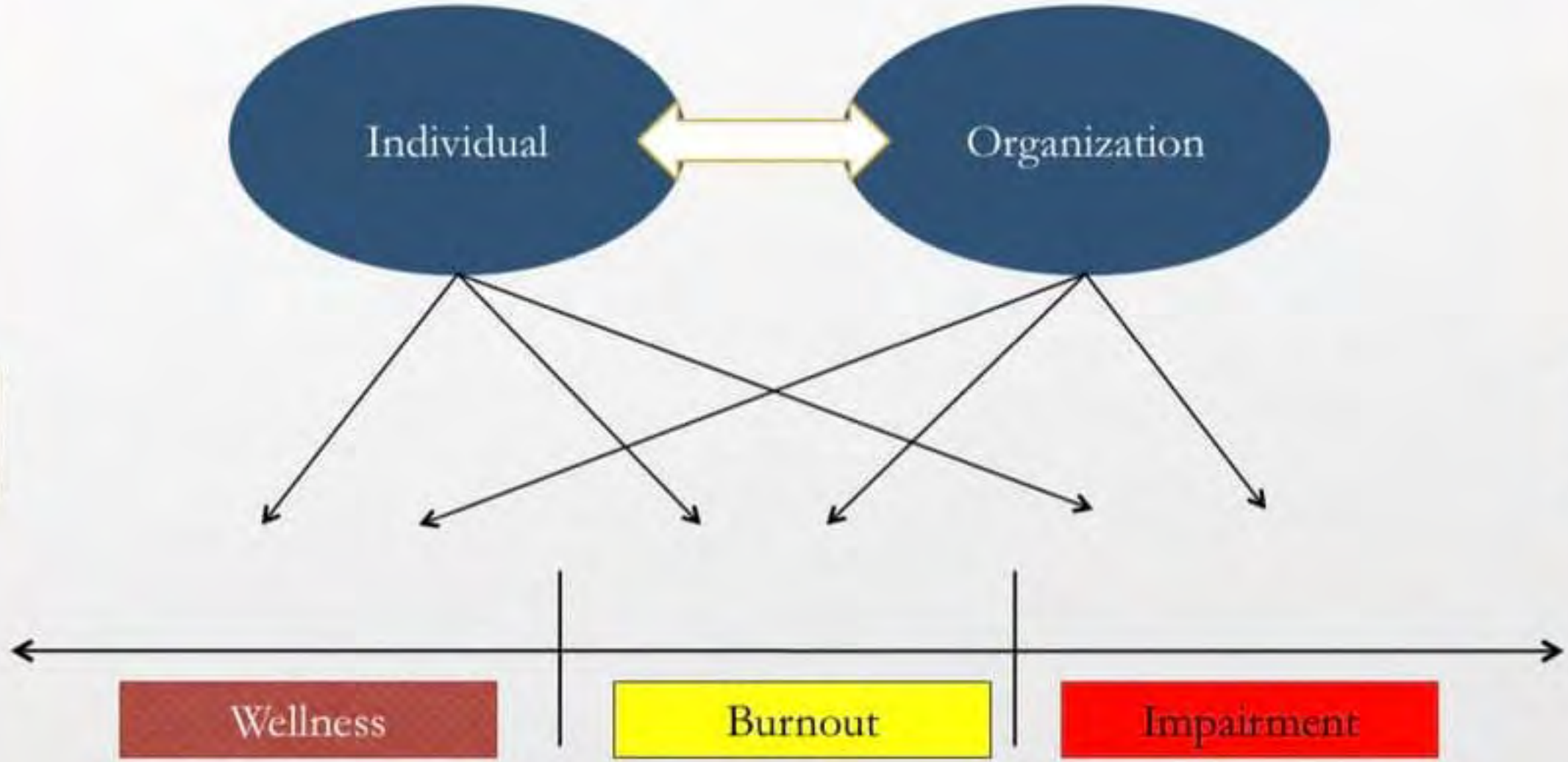
I should have been able to get through all those cases today. I'm a failure.

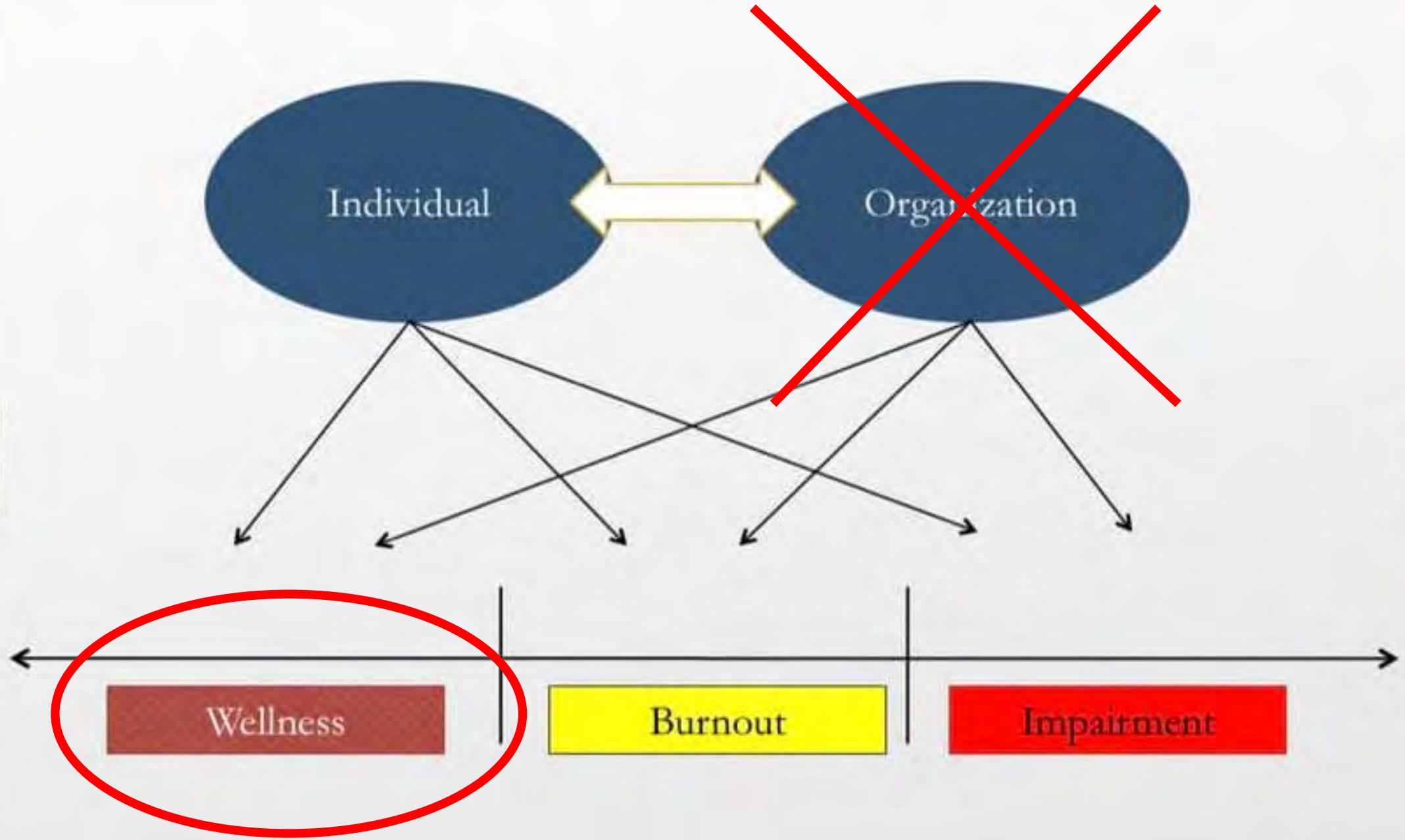
Failure of resourcefulness
Lack of resiliency

Moral injury blames the system

Administrators shouldn't be telling me how to practice medicine! Go to hell!

Blames the healthcare system
Conflicted allegiances (patients vs employer vs self)


Individual
Organization
Wellness
Burnout
Impairment


Individual
Organization
Wellness
Burnout
Impairment

Wellness is a focus on **you**

It’s not being selfish

It’s *not a* *magical unicorn*

It exists on a spectrum (not black-or-white)

There are tools and tricks to help you work towards improved <u>mental and physical well-being</u>

Wellness: Water, Sleep & Food

Water	Drink plenty of water—dehydration makes you groggy and less productive
Sleep	Get adequate amounts of quality sleep—try earplugs, white noise, an eye mask, light-blocking curtains, kick pets or a snoring spouse out of the room
Food	Fuel your body with proper nutrition—keeping a food diary or using an app helps you be more mindful about your food intake. Choose fruit in the afternoon instead of junk food.

Wellness: Exercise, Meditation & Phones

Exercise	Regular cardiovascular exercise improves mood and alleviates stress. Make it a priority.
Meditation	Meditation is for the mind like cardio is for the body. A daily practice of meditation is a strong foundation and improves other areas of your life. Try 30 minutes a day for 30 days and see how you feel. Insight Timer app is a great resource.
Phones	Smart phones can be disruptive to our mental well-being. Have periods of time when your phone is put away. Minimize social media and constantly checking the news. Turn off unnecessary notifications. Shut your phone off at night if possible. Don’t check it first thing in the morning.

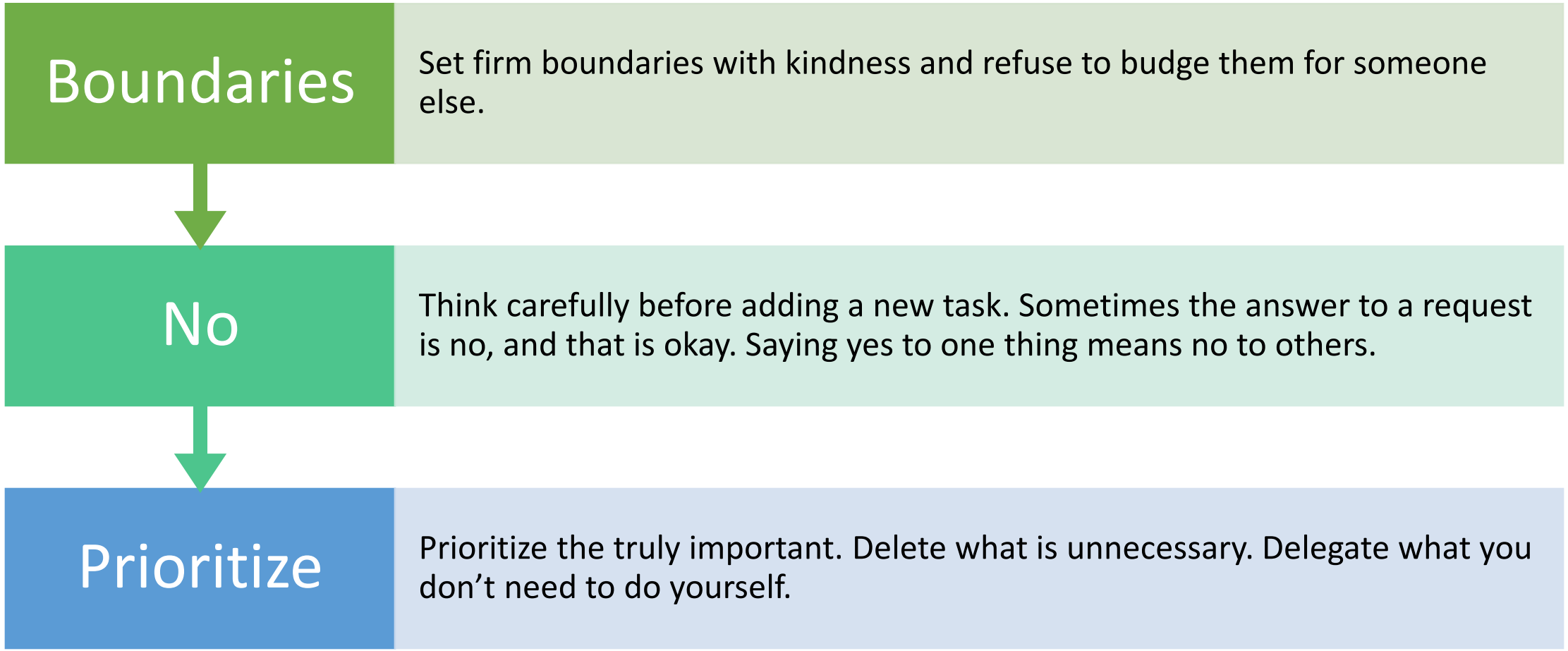
Wellness: Sunshine, Caffeine, Sugar & Hygiene

Sunshine	Get outside when it's sunny (even in the winter). Sit in front of a full spectrum light bulb. Some of us are vulnerable to Seasonal Affective Disorder, but even those who aren't may benefit.
Caffeine/Sugar	Excessive caffeine and sugar can cause your energy levels to bounce around, with highs and lows. Limit them and try to switch to beverages with less caffeine and snacks with less sugar.
Hygiene	Is your hygiene starting to slip? This can be a warning sign of depression or burnout. For those of you who feel your best when you are made up, are you now leaving the house in your favorite lounge suit with your hair in a messy bun?

Wellness: Take Time, Walk & Connect

Time	Take a little time for yourself—even if it's just 10 minutes a day hiding in the bathroom from your kids, in the chapel at the hospital, or on a bench outside
Walk	Go for a walk, especially if you can enjoy a park-like setting
Connect	Take time to connect with others—fight the urge to socially isolate

Wellness: Boundaries, Say No, & Prioritize



Wellness: Automate Decisions

Making decisions takes time and mental energy.

Automating decisions for less important tasks conserves energy

Reduce your mental load by eliminating unimportant decisions from your day

Tricks: Have a morning routine, a work uniform, eat the same breakfast everyday

Steve Jobs and his famous black turtleneck

Wellness: Find Fulfillment

Many physicians find their work lacking in meaning and fulfillment

Look for activities outside of work that provide joy and meaning

Ideas: Volunteer, practice an instrument, join a book club, garden

Wellness: Focus on Today

Dwelling on the past and worrying about the future uses mental energy and makes it harder to appreciate the moment

Focus on the activities you have planned for today and the person in front of you

Tools: Journaling can help you process the past. Bring your mind back to the present when it wanders.

Wellness: Making Decisions

Don’t do something because you think you *should*.

Do it because *you feel it in your soul*.

Here’s a test:

> Picture yourself making the decision to take on that new task or that role.
>
> How do you feel?
>
> Do you feel **heavier** and **more weighed down**?
>
> Do you feel *lighter* and *more free*?

Do things that make you feel **better**, not **worse**!

Your Assignment

Think about all the wellness tools and tricks that were discussed

Choose one to focus on this week

Don’t get overwhelmed and try to do everything at once

Wellness is a journey, not a destination

After you have seen improvement in that one area, move onto the next

It’s okay to have ebbs and flows and setbacks

Just hit reset and keep going


Guided visualization
to support your path to wellness

Questions or Comments?

INSURANCE COMMISSION SURPRISE BILLING RULES & REGULATIONS

Presenters:

General John King, Commissioner Georgia Department of Insurance &Safety Fire

Mr. Gregg Conley, Executive Counsel, Georgia Department of Insurance &Safety Fire

Mr. Jet Toney, Executive Secretary, Georgia Society of Anesthesiologists

Office of Commissioner of Insurance and Safety Fire

Protect | Enforce | Educate | Inform

120-2-106-.01 Authority & Scope

-This Regulation is promulgated by the Commissioner of Insurance pursuant to the authority set forth in O.C.G.A. §§ 33-2-9 and O.C.G.A §§ 33-20E.

-“Surprise Billing Consumer Protection Act,” was passed to provide a mechanism to resolve billing and payment disputes between insurers and out-of-network providers.

-It establishes a fair and equitable arbitration process to handle such disputes.

-Regulation applies only to “healthcare plans” and “state healthcare plans,” as defined in this Regulation.

-Nothing in this Regulation reduces a covered person’s financial responsibilities concerning ground ambulance transportation.

-Failure of an insurer to comply with the provisions will be deemed an unfair trade practice

120-2-106-.04 ERISA Exempt Plans

-ERISA Plans subject to the exclusive jurisdiction of federal law Exemptand rules are not eligible for review under the "Surprise Billing Consumer Protection Act."

120-2-106-.05 Emergency Services

-Insurers pay covered emergency medical services for covered persons regardless of whether the provider or facility is participating or non-participating in their network according to this Regulation.

-Insurer will make such payment without prior authorization and without retrospective payment denial for emergency medical services deemed to be medically necessary.

-If a covered person receives emergency medical services from a non-participating provider, such person is not liable to the non-participating provider or facility for any amount exceeding such person's deductible, coinsurance, copayment, or other costsharing amount as determined by such person's policy.

-The amount payable by an insurer for emergency medical services paid directly to the provider will be the greater of:

(a) The verifiable median contracted amount paid by all eligible insurers for similar services calculated by a vendor utilized and chosen by the Commissioner;

(b) The most recent verifiable amount agreed to by the insurer and the nonparticipating emergency medical provider for the same services during which time the provider was in-network with the insurer

(c) A higher amount as the insurer may deem appropriate given the complexity and circumstances of the services provided. Any amount payable by an insurer under this section for emergency medical services shall not include any amount of coinsurance, copayment, or deductible owed by the covered person or already paid by such person.

-Insurers will not deny benefits or emergency medical services rendered based on a covered person's failure to provide subsequent notification where the insured's medical condition prevented timely notification.

-EMS received from non-participating providers shall count toward the deductible and any maximum out of pocket policy provisions as if the services were obtained from a participating provider.

In cases of emergency medical services received from a non-participating facility, the facility shall bill the covered person no more than deductible, coinsurance, copayment, or other cost-sharing as determined by such person's policy.

120-2-106-.06 Non-emergency Medical Services

-Insurer that provides any benefits to covered persons with respect to non-emergency medical services would pay for such services if it resulted in a surprise bill regardless of whether the healthcare provider furnishing non-emergency medical services is a participating provider with respect to non-emergency medical services.

-In the event a covered person receives care in a facility that generates a surprise bill for non-emergency medical services from a non-participating medical provider, the non-participating provider shall collect or bill the covered person no more than such person's deductible, coinsurance, copayment, or other cost-sharing amount as determined by such person's policy.

The insurer directly pays the provider the greater of:

(a) The verifiable median contracted amount paid by all eligible insurers for similar services calculated by a vendor utilized and chosen by the Commissioner

(b) The most recent verifiable amount agreed to by the insurer and the nonparticipating emergency medical provider for the same services during which time the provider was in-network with the insurer

(c) A higher amount as the insurer may deem appropriate given the complexity and circumstances of the services provided. Any amount that the insurer pays the non-participating provider under this subsection shall not be required to include any amount of coinsurance, copayment, or deductible owed by the covered person or already paid by such person.

-Non-emergency medical services received from non-participating providers and/or facilities shall count toward the deductible and any maximum out of pocket policy provisions as if the services were obtained from a participating provider.

-In cases of non-emergency medical services received from a non-participating facility, the facility shall bill the covered person no more than deductible, coinsurance, copayment, or other cost-sharing as determined by such person's policy

120-2-106-.07 Balance Billing provision for covered benefits from nonparticipating providers

-No healthcare plan shall deny or restrict covered benefits from a participating provider to a covered person solely because the covered person obtained treatment from a nonparticipating provider leading to a balance bill.

-Notice of such protection shall be provided in writing to the covered person by the insurer.

120-2-106-.08 Covered Person Choosing to receive Non-emergency medical Services from a non-participating provider, Referrals and Procedures

-Nothing in this chapter shall reduce a covered person's financial responsibilities if such covered person chose to receive non-emergency medical services from an out-of-network provider.

-The covered person's choice described in subsection (1) of this Code section must:

(a) Be documented through such covered person's written and oral consent in advance of the provision of such services

(b) Occur only after such person has been provided with an estimate of the potential charges.

-If during the provision of non-emergency medical services, a covered person requests that the attending provider refer such covered person to another provider for the immediate provision of additional non-emergency medical services, such referred provider shall be exempt from the requirements of this Code section if the following requirements are satisfied:

(a) The referring provider advises the covered person that the provider may be a non-participating provider and may charge higher fees than a participating provider

(b) The covered person orally and in writing acknowledges that he or she is aware that the provider may be a non-participating provider and may charge higher fees than a participating provider

20-2-106-.09 Claims Database

-Pursuant to O.C.G.A 33-20E-8 (a) appropriations for an all claims database were not provided, and subsection (b) of O.C.G.A 33-20E-8 will be triggered.

-The Department will utilize a verifiable median contracted amount paid by all eligible insurers for similar services calculated by a vendor utilized and chosen by the Commissioner

FAIR HEALTH

-The Office of Commissioner of Insurance and Safety Fire has chosen to contract with FAIR Health to provide the "contracted amount" as spelled out in the legislation and Rules and Regulations.

-FAIR Health is an independent nonprofit not affiliated with any governmental agency, insurer, or other organization in the healthcare sector.

-The FAIR Health database currently includes over 900 million claim records from Georgia, growing by approximately 76 million claim records per year.

-FAIR Health data serves as an official reimbursement reference point in state balance billing and consumer protection laws targeting balance bills for surprise out-of-network and emergency services in Texas, New Mexico, New York, and Connecticut.

120-2-106-.10 Arbitration

-If an out-of-network provider concludes that payment received from an insurer pursuant to is not sufficient given the complexity and circumstances of the services provided. Or, if an out-of-network facility concludes that payment received from an insurer concludes the same, a request for arbitration with the Commissioner may be initiated.

-A request for arbitration must be submitted within 30 days of receipt of payment for the claim and concurrently provide the insurer with a copy of such request

-All arbitration requests must be submitted to the Administrative Procedure Division of the Office of Insurance and Safety Fire Commissioner.

-Within 30 days of the insurer's receipt of a provider's or facility's request for arbitration, the insurer must submit to the Administrative Procedure Division all data necessary to determine whether the insurer's payment to such provider or facility

-Should an insurer believe one of these criteria is present, they should submit the appropriate data they believe supports this contention. Should the Commissioner dismiss a claim for meeting one of the criteria in law, the provider or facility may request a hearing

-Before proceeding with arbitration, the parties will be permitted 30 days from the date the request was received to negotiate a settlement. The parties must notify the Administrative Procedure Division of the result of such negotiation.

-If the Administrative Procedure Division has not been notified within 30 days of the settlement negotiation's result, the claim will be sent to arbitration.

-The parties may still reach a negotiated settlement after the claim is referred but before arbitration begins. However, they will be responsible for splitting any costs incurred by the resolution organization due to the referral.

-Disputes are to be reviewed by independent resolution organizations with whom the Department will contract.

120-2-106-.10 ARBITRATION CONT.

-A list of the selected organizations and their approved fee schedules will be kept by the Administrative Procedure Division and available for review upon request.

-In contracting with each dispute resolution organization, the Department will ensure that appropriate safeguards are put in place so that information subject to trade secret protection laws is duly protected.

-Upon the Commissioner's referral of a dispute to a resolution organization, the parties will have five days to select an arbitrator by mutual agreement. If the parties have not notified the resolution organization of their mutual selection before the fifth day, the resolution organization shall select an arbitrator from among its members.

-Should the parties not agree to the resolution organization's choice of arbitrator, the Commissioner will select one for the parties; this decision will be final.

-Arbitrators should possess training and experience in health care billing, reimbursement, and usual and customary charges in consultation with a licensed doctor in active practice in the same or similar specialty as the doctor providing the service that is the subject of the dispute

120-2-106-.10 ARBITRATION CONT.

-In addition to the factors found in O.C.G.A. § 33-20E-15, in deciding a claim, arbitrators should also consider the following factors:

a. Whether there is a gross disparity between the fee charged by the provider and fees paid to the provider for the same services provided to other patients in health care plans in which the provider is non-participating, and the fees paid by the health plan to reimburse similarly qualified out-of-network providers for the same services in the same region

b. The provider's training, education, experience, and the usual charge for comparable services when the provider does not participate with the patient's health plan

c. In the case of a hospital, the teaching status, scope of services, and case-mix

d. The circumstances and complexity of the case

e. Patient characteristics

f. For physician services, the usual and customary cost of the service.

120-2-106-.10 ARBITRATION CONT.

-Following the resolution of arbitration, the Commissioner is permitted to refer the decision of the arbitrator to the appropriate state agency or the governing entity with governing authority over such provider or facility if the Commissioner concludes that a provider or facility has either displayed a pattern of acting in violation of this chapter or has failed to comply with a lawful order of the Commissioner or the arbitrator.

-Each resolution organization contracted with by the Department should submit its quarterly reports to the Administrative Procedure. In addition to the information required by O.C.G.A. § 33-20E-19, each resolution organization will also submit in its quarterly report: the name of each arbitrator who settled a dispute and the number of disputes they settled in favor of either the insurer or the provider or facility.

120-2-106-.11 Hospital Surprise Bill Rating

-Insurers shall make available online and in print a health benefit plan surprise bill rating for hospitals

-For each hospital, health benefit plans shall clearly display a rating denoting the health benefit plan surprise bill rating factor.

-This factor shall range from 0, denoting no specialties are in-network, to 4, which means all specialty groups are in-network.

-For any rating less than 4, the health benefit plan shall display which specialty group is not in-network by marking the specialty with a red X and any specialty group that is included by a green checkmark X.

-If a hospital does not provide one of the qualified hospital-based specialties, the absence of that specialty shall be designated by a green N/A.

-The factor and markings shall be clearly displayed for the covered person or potential covered person to easily understand.

-Qualified hospital-based specialty groups are medical groups that include anesthesiologists, pathologists, radiologists, or emergency medicine physicians.

-Any changes in the hospital rating factor shall be changed by the health benefit plan within 30 days.

120-2-106-.12 SEVERABILITY

-Insurers shall make available online and in print a health benefit plan surprise bill rating for hospitals

-For each hospital, health benefit plans shall clearly display a rating denoting the health benefit plan surprise bill rating factor.

-This factor shall range from 0, denoting no specialties are in-network, to 4, which means all specialty groups are in-network.

-For any rating less than 4, the health benefit plan shall display which specialty group is not in-network by marking the specialty with a red X and any specialty group that is included by a green checkmark X.

-If a hospital does not provide one of the qualified hospital-based specialties, the absence of that specialty shall be designated by a green N/A.

-The factor and markings shall be clearly displayed for the covered person or potential covered person to easily understand.

-Qualified hospital-based specialty groups are medical groups that include anesthesiologists, pathologists, radiologists, or emergency medicine physicians.

-Any changes in the hospital rating factor shall be changed by the health benefit plan within 30 days.

INSURANCE COMMISSION SURPRISE BILLING RULES & REGULATIONS

Documents related to Georgia's Surprise Billing legislation and regulation and the rating system may be found on the home page of www.gsahq.org through January 11, 2021.

Documents related to Georgia's 2020 Surprise Billing Law and Rating System

HB 888 Surprise Billing Consumer Protection Act -
https://www.legis.ga.gov/legislation/57197
Rep. Lee Hawkins

HB 888 MAG Fact Sheet- https://www.mag.org/wp-content/uploads/2021/01/HB888.pdf

HB 789 Creation of a surprise bill rating system based upon the number of certain physician specialty groups contracted with a hospital within a health insurer's network-
https://www.legis.ga.gov/legislation/56746

HB 789 MAG Summary- would 1) address "surprise bills" by creating a "star" rating system to highlight which health insurance plans include both certain medical specialties (i.e., emergency medicine, radiology, anesthesiology, and pathology) and hospitals in the same networks and 2) require health insurers to make this information available on their websites and in their printed directories.

Insurance Commissioner Surprise Billing Rules & Regulations-
https://oci.georgia.gov/news/2020-12-30/office-commissioner-insurance-and-safety-fire-posts-final-surprise-billing (to get to PDF version)

CME Information

Target Audience
This course is designed for anesthesiologists, physicians, and other members of anesthesia care team.

Learning Objectives
Upon completion of this activity, learners will be able to:

- know ERAS protocols and updates regarding C-Sections
- review the most up to date guidelines as regards anticoagulation in the perioperative period.
- assess physician wellness and its implications on a physician's practice.
- review the latest clinical guidelines and statistical analysis of the COVID-19 pandemic.
- review federal issues impacting the practice of anesthesiology and how to properly advocate for the profession.
- prepare to conform to Georgia's new surprise billing law.

Disclosure Policy
The American Society of Anesthesiologists remains strongly committed to providing the best available evidence-based clinical information to participants of this educational activity and requires an open disclosure of any potential conflict of interest identified by our faculty members. It is not the intent of the American Society of Anesthesiologists to eliminate all situations of potential conflict of interest, but rather to enable those who are working with the American Society of Anesthesiologists to recognize situations that may be subject to question by others. All disclosed conflicts of interest are reviewed by the educational activity course director/chair to ensure that such situations are properly evaluated and, if necessary, resolved. The American Society of Anesthesiologists educational standards pertaining to conflict of interest are intended to maintain the professional autonomy of the clinical experts inherent in promoting a balanced presentation of science. Through our review process, all American Society of Anesthesiologists accredited activities are ensured of independent, objective, scientifically balanced presentations of information. Disclosure of any or no relationships will be made available for all educational activities.

All planners, faculty, and staff have disclosed no relevant financial relationships with commercial interests.

Disclaimer
The information provided at this accredited activity is for continuing education purposes only and is not meant to substitute for the independent medical judgment of a healthcare provider relative to diagnostic and treatment options of a specific patient's medical condition.

Accreditation Statement

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of the American Society of Anesthesiologists and Georgia Society of Anesthesiologists (GSA). The American Society of Anesthesiologists is accredited by the ACCME to provide continuing medical education for physicians
The American Society of Anesthesiologists designates this live activity for a maximum of 6.0 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Maintenance of Certification in Anesthesiology™ program and MOCA® are registered trademarks of The American Board of Anesthesiology®. MOCA 2.0® is a trademark of the American Board of Anesthesiology®.

This activity contributes to the CME component of the American Board of Anesthesiology's redesigned Maintenance of Certification in Anesthesiology™ (MOCA®) program, known as MOCA 2.0®. Please consult the ABA website, www.theABA.org, for a list of all MOCA 2.0 requirements.

The deadline for claiming credit for this live activity is Dec. 31, 2021, 11:59 p.m. CT.

Claiming Credit
Please follow these directions to complete the evaluation, claim your credit and print your certificate. The date on your certificate will reflect the date upon which you claim credit.

Click the following link and log in using your ASA credentials:
https://education.asahq.org/totara/course/view.php?id=3867

Complete the evaluation, claim credits, and print your certificate, or
Log in to the ASA Education Center at: http://education.asahq.org/.

Once you have logged on to the ASA Education Center homepage, click the tab that says "MY COURSES" to select the link: *2021 Georgia Society of Anesthesiologists (GSA) Winter Forum*

Complete the evaluation, claim credits, and print your certificate.

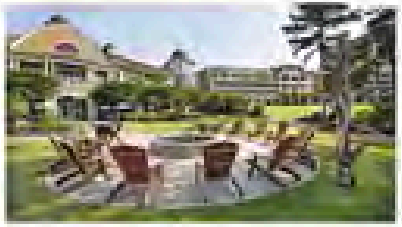
NOTE: To retrieve your username and/or password, enter your email address at:
https://www.asahq.org/member-center/forgot-password

PLEASE NOTE: you can only aim credit one time and you must claim your credits for this course by December 31, 2021. You will NOT be able to claim credits after this date.

GSA Summer Meeting

July 16-18, 2021

Activity Directors:
Dr. Ellen Basile
Dr. Ankit Jain



If in-person, Ritz-Carlton Lodge, Lake Oconee