AASLD COVID-19 Clinical Oversight & Publications Subcommittee Presents

COVID-19 & the Liver: Telemedicine During the COVID-19 Pandemic and Beyond

June 4, 2020
5-6 pm ET

Presenters:
Marina Serper, MD, MS
Oren K. Fix, MD, MSc, FAASLD
Elliot B. Tapper, MD

Moderator:
Nancy Reau, MD, FAASLD
Webinar Moderator
Nancy Reau, MD, FAASLD

Professor of Internal Medicine, Richard B. Capps Chair of Hepatology, Associate Director of Solid Organ Transplantation, and Section Chief of Hepatology

Rush University Medical Center
Webinar Presenter
Oren K. Fix, MD, MSc, FAASLD
Medical Director of the Liver Transplant Program – Swedish Medical Center
Clinical Associate Professor – Washington State University Elson S. Floyd College of Medicine
Webinar Presenter
Marina Serper, MD, MS
Assistant Professor of Medicine
University of Pennsylvania
Perelman School of Medicine
Webinar Presenter
Elliot B. Tapper, MD

Assistant Professor of Medicine

University of Michigan Health System
Connect with AASLD

aasld.org/twitter
@AASLDtweets

aasld.org/instagram

aasld.org/facebook

aasld.org/linkedin

aasld.org/youtube
For resources and updates on COVID-19 and the liver, visit aasld.org/COVID19
AASLD Member Benefits

- Special Interest Group participation
- Priority housing and registration with discounts to The Liver Meeting® and DDW®
- Free or discounted subscriptions to AASLD journals HEPATOLOGY and Liver Transplantation
- Complimentary access to premier hepatology online education in LiverLearning®
- Individual and corporate non-physician memberships available

Join or Renew Today: aasld.org/membership
Join the COVID-19 Discussion Community on Engage

engage.aasld.org/covid19
New AASLD Journals App

Access all four AASLD Journals in a single app

aasld.org/publications
Submit abstracts at aasld.org/LMabstracts

Call for Abstracts

Deadline is
July 17, 11:59 p.m. ET
You can help invest in the future of hepatology by supporting more research & advanced career training.

Donate today to AASLD Foundation
aasldfoundation.org/donate

Follow us on Twitter @AASLDFoundation
Stay Up-To-Date with the latest AASLD Events & Educational Offerings

aasld.org/calendar
Prepare for ABIM and ABP certification and maintenance of certification exams in transplant hepatology and pediatric transplant hepatology

2020 Transplant Hepatology Board Review Course

Learn More

aasld.org/TransplantReview
View the Latest issue of CLD, AASLD’s multimedia journal: COVID-19 & Liver Disease

cldlearning.com
COVID-19 and the Liver - Telemedicine During the COVID-19 Pandemic and Beyond

Nancy Reau, MD
Professor of Medicine
Richard B. Capps Chair of Hepatology
Chief, Section of Hepatology
Associate Director, Solid Organ Transplantation
Rush University Medical Center
**Webinar Agenda**

- Webinar Contributors
- Presenter Introductions – Dr. Nancy Reau
- Housekeeping Items – Dr. Nancy Reau
- Telemedicine Implementation & Patient Satisfaction – Dr. Nancy Reau
- Telemedicine Introduction, Regulatory and Financial Issues – Dr. Oren Fix
  - Telemedicine Integration In Liver Disease Care – Dr. Marina Serper
  - Telemedicine challenges to quality care delivery – Dr. Elliot Tapper
- Panel Discussion / Q&A
Clinical Oversight & Publications Subcommittee

- Co-chair, Oren K. Fix, MD, MSc, FAASLD, Swedish Medical Center (Washington)
- Co-chair, Elizabeth C. Verna, MD, MS, Columbia University (New York)
- Kimberly Brown, MD, Henry Ford Health System (Michigan)
- Jaime Chu, MD, Icahn School of Medicine at Mount Sinai (New York)
- Bilal Hameed, MD, University of California (California)
- Laura M. Kulik, MD, Northwestern Medical Faculty Foundation (Illinois)
- Ryan M. Kwok, MD, Uniformed Services University (Maryland)
- Brendan M. McGuire, MD, University of Alabama (Alabama)

- Jennifer C. Price, MD, PhD, University of California, San Francisco (California)
- Daniel S. Pratt, MD, FAASLD, Massachusetts General Hospital (Massachusetts)
- Nancy S. Reau, MD, Rush University (Illinois)
- Mark W. Russo, MD, MPH, FAASLD, Carolinas Medical Center (North Carolina)
- Michael Schilsky, MD, FAASLD, Yale University (Connecticut)
- Norah Terrault, MD, MPH, FAASLD, Keck Medicine of USC (California)
- Andrew Reynolds, (Patient Advocate)
- Raymond Chung and K. Rajender Reddy (ex-officio)
Webinar Moderator
Nancy Reau, MD, FAASLD

Professor of Internal Medicine, Richard B. Capps Chair of Hepatology, Associate Director of Solid Organ Transplantation, and Section Chief of Hepatology

Rush University Medical Center
Webinar Presenter

Oren K. Fix, MD, MSc, FAASLD
Medical Director of the Liver Transplant Program – Swedish Medical Center
Clinical Associate Professor – Washington State University Elson S. Floyd College of Medicine
Webinar Presenter
Marina Serper, MD, MS
Assistant Professor of Medicine
University of Pennsylvania
Perelman School of Medicine
Webinar Presenter
Elliot B. Tapper, MD
Assistant Professor of Medicine
University of Michigan Health System
Webinar Panelist

- Laura M. Kulik, MD, Northwestern Medical Faculty Foundation
- Jennifer C. Price, MD, PhD, University of California, San Francisco
- Andrew Reynolds, Patient Advocate, San Francisco AIDS Foundation
- Ashina Singh, MD, Henry Ford Health System
- Norah Terrault, MD, MPH, FAASLD, Keck Medicine of USC
Webinar Q&A

Submit your questions in the Q&A box at the top or bottom of your screen.

Questions will be answered at the end of the presentation.
June 2, 2020

- Across the Rush system, we have screened 33,750 patients since the beginning of the COVID-19 outbreak. As we continue to screen and treat patients, 8,545 have tested positive. We currently have 134 admitted as inpatients across the system.

Clinical Summary

- Rush University Medical Center currently has 110 patients admitted with COVID-19 (66 on the general medical floor and 44 in the intensive care unit). Of the 44 in the intensive care unit, 29 are intubated. We currently have seven patients on extracorporeal membrane oxygenation (ECMO).
- We have extubated 109 patients and discharged 885 patients. The survival rate for COVID-19 patients at Rush remains at 90% for all hospitalized patients.
Outcome for COVID-19 Positive Patients as of 6/1/2020 (Day Prior)

**Did Not Require Hospitalization**
- 6,899
- 84.3%

**Hospitalized and Discharged Home**
- 1,133
- 13.8%

Daily Trend (by result date)
5/22/2020: statement from our CMO

- We put 18 patients on ECMO (extracorporeal membrane oxygenation) and just last week, removed the ventilator from our 100th patient successfully treated for severe critical respiratory failure.

- But this doesn’t reflect the real impact
The impact on Surgery was more pronounced
Liver Clinic “opened” this week

Our no-show rate dropped drastically from 15.7% in March (fairly typical) to a confirmed no-show rate of 5.8% in April.
• Patient Satisfaction actually went up
  • Despite rescheduling, social distancing, visitor restrictions
• Off Site were less affected
• No show rates changed significantly
• We have not yet recovered
Telemedicine During the COVID-19 Pandemic and Beyond

Oren Fix, MD, MSc, FAASLD
Medical Director, Liver Transplant Program
Swedish Medical Center, Seattle, WA

Clinical Associate Professor
Washington State University Elson S. Floyd College of Medicine
Outline

- Definitions
- Pre-COVID-19 barriers to telemedicine adoption
- Telemedicine waivers for the COVID-19 public health emergency
- Documentation and coding
- Telemedicine limitations
Definitions

Pre-COVID-19 Barriers to Telemedicine Adoption

- Restricted to patients who reside outside Metropolitan Statistical Areas or in rural Health Professional Shortage Area
- Patient must travel to local medical facility, e.g., physician office, hospital, CAH, FQHC, hospital-based dialysis center, SNF, community mental health center

Pre-COVID-19 Barriers to Telemedicine Adoption

- Not covered by all private insurers
- Not all states have parity laws requiring private payers to reimburse the same amount for telemedicine services as analogous in-person services
- Limited by technology requirements such as HIPAA-compliant audiovisual equipment
Telemedicine Waivers for the COVID-19 Public Health Emergency

- March 6, 2020: Coronavirus Preparedness and Response Supplemental Appropriations Act (H.R. 6074)
  - Waives the rural area requirement and the originating site restrictions
  - Allows use of phones
  - Telemedicine services paid at the same amount as in-person services

Telemedicine Waivers for the COVID-19 Public Health Emergency

- March 13, 2020: President Trump declared a national emergency
- March 17, 2020: HHS Office of Civil Rights announcement
  - No penalties for the good faith provision of telemedicine during the COVID-19 public health emergency
  - Even if remote communication technologies used for such services may not fully comply with HIPAA requirements
- April 30, 2020: CMS announced temporary increased payments for telephone visits to match in-person and video visits

Telemedicine Interstate Issues

- In most states, providers must be licensed in the state where the patient is located at the time of the visit.
- Most states are providing streamlined emergency license applications for the provision of telemedicine services during the public health emergency.
Documentation and Coding: Phone

- Medicaid/Commercial: 99441-99443
- Medicare is reimbursing for these codes during the public health emergency at same rates as 99212-99214
- May be used for new and established visits during the public health emergency
- **Documentation:**
  - Total time spent with patient
  - Medical Decision Making (MDM)

Documentation and Coding: Video

- Same codes as usual New (99201-99205) or Established (99211-99215) visits
- Documentation same as in-person visits under which you would bill these codes

Documentation and Coding: Video

- For video visits, CMS is allowing use of 2021 coding guidelines during the public health emergency
- For E&M coding, history and exam elements are not required and the complexity of MDM alone determines appropriate code
  - History and exam are important components to support medical necessity and complexity (i.e., Hierarchical Condition Categories, HCC)

For video visits, time-based coding includes all the time spent caring for the patient.

Total time (face-to-face and non-face-to-face) personally spent on the day of the encounter.

From chart prep/review through completion of documentation.
Telemedicine Limitations

- Technology requirements (device and internet)
- Able to manage the technology
- Incomplete physical examination: What else are we missing?
- “Webside manner”
- Health care disparities: Are we closing or widening the gap?
- Sustainability

Nouri S et al. Addressing equity in telemedicine for chronic disease management during the Covid-19 pandemic. NEJM Catalyst 2020 May 4
Telemedicine for Liver Disease During COVID-19 and Beyond

Marina Serper, MD, MS
Assistant Professor of Medicine
University of Pennsylvania Perelman School of Medicine
Leonard Davis Institute of Health Economics
Financial Disclosures

• None
Overview

- Pre COVID telemedicine use
- Current use
  - Tools, infrastructure
  - Patient, provider perspectives
  - Potential barriers
Telehealth-Based Evaluation Identifies Patients Who Are Not Candidates for Liver Transplantation

Venkata Rajesh Korjeti,* Douglas Heuman,*† Jasmohan S. Bajaj,*† HoChong Gilles,† Michael Fuchs,*† Phillip Tarkington,*,§ and Binu V. John*†

*Department of Medicine, Virginia Commonwealth University, Richmond, Virginia; †Division of Gastroenterology, §Department of Internal Medicine, McGuire VA Medical Center, Richmond, Virginia

190 patients referred to Richmond VA, 48% SCAN-ECHO 2012-2016

- **Format** - Previously placed electronic consults for transplant discussed at ECHO conference, 30 min didactics on transplant or non-transplant topics

- **0%** in SCAN-ECHO deemed non-candidates at initial referral versus **41%** in traditional model

- **23%** in SCAN-ECHO versus **56%** ultimately not listed

Clinical Gastroenterology and Hepatology 2019;17:207–209
Use of Telehealth Expedites Evaluation and Listing of Patients Referred for Liver Transplantation

Binu V. John,†‡ Eleanor Love,§ Bassam Dahman,‖ Nargiza Kurbanova,‖ Venkata Rajesh Konjeti,‖ Latha Thankam Sundaram,‖ Yangyang Deng,‡ Sean Aubuchon,§ Douglas Heuman,‖ Jasmohan S. Bajaj,†‡ Hochong Gilles,‖ Michael Chang,§ Rehan Qayyum,‖ and Mohammad S. Siddiqui†

†Department of Gastroenterology and Hepatology, ‡Department of Radiation Oncology, McGuire VA Medical Center, Richmond, Virginia; §Division of Gastroenterology and Hepatology, Department of Medicine, ‖Department of Health Behavior and Policy, ‰Department of Hospital Medicine, Virginia Commonwealth University, Richmond, Virginia; ‖Virginia Commonwealth University School of Medicine, Richmond, Virginia

• **232** patients evaluated for transplant via telehealth compared to in-person

• **22 days** to complete evaluation via **telehealth** vs. **80 days** with traditional model

• Patients with low MELD-Na scores benefited disproportionately from telehealth given faster than usual evaluation times
Penn Telehepatology Program

- In 2018 partnered with large gastroenterology group in Lancaster, PA (about 60 miles from Philadelphia)

- Group with clinical need for hepatology
  - 36 GI practitioners
  - Retirement of the only part-time hepatologist

- Original program intent – recruit patients within 2 weeks of liver-related hospitalization to help manage complications

TELEMEDICINE IN LIVER DISEASE AND BEYOND

The hepatology workforce cannot meet the demand of patients with liver disease nationwide. Telemedicine holds tremendous promise to increase access but is limited in scale by interstate licensing restrictions and reimbursement barriers.

**TELEHEPATATOLOGY WORKFLOW**

- Community-based GI practice refers and schedules patient
- Patient
  - Decompensated cirrhosis
  - Liver-related hospitalization
  - Second opinion for advanced liver disease
- Live-video appointment
- Hepatologist
- Shared electronic health record

**OUTCOMES**

**FEASIBILITY & FIDELITY**
- 94% of referred patients scheduled
- 85% with video visits

**ACTIONABLE CLINICAL RECOMMENDATIONS**
- 45% new tests ordered
- 45% medication changes
- 18% transplant referral

**PATIENT ACCEPTABILITY**
- Net Promoter Score 92 indicating excellent experience and satisfaction

**PROVIDER ACCEPTABILITY**
- A valued service
- Allows for expert consultations

**BARRIERS**

- Interstate licensing
- Payer reimbursement
- Access/comfort with technology

**THE PATH FORWARD**

Major Temporary Regulatory Changes in Payer Policies as Response to COVID-19 Pandemic
- Opportunity for widespread implementation
- Further study for patient/provider health-system issues needed


© 2020 AMERICAN ASSOCIATION FOR THE STUDY OF LIVER DISEASES WWW.AASLD.ORG
Care Redesign During and Beyond COVID-19

Tapper EB, Asrani SK, J Hepatol 2020, April 13
doi: 10.1016/j.jhep.2020.04.005
Changes in Care Delivery with COVID-19 in the Veterans Affairs Affairs

Unpublished data. Courtesy of Nadim Mahmud.
Proportion of Telemedicine Use for Cirrhosis GI/Hepatology in the VHA

Unpublished data. Courtesy of Nadim Mahmud.
Telemedicine has been deployed in a series of mutually reinforcing layers:

- An outer screening layer to prevent uncontrolled entry of COVID into the system
- A hotline staffed 24 hr/day by RNs for employee and patient questions
- Providers (MD’s, NP’s) engaged in Penn Medicine on Demand, virtual visits with patients
- Virtual and limited e-consults between providers
- Penn E-lert virtual ICU for the care of the sickest patients
The Local Response to the “Emergent State”

- Working with local Connected Health Team
- Outpatient transplant evaluations ongoing in-person vs. telemed based on clinical urgency
- Most routine waitlisted and post-transplant visits converted to telephone and/or video
- Electronic Consultations
- Inpatient Video consults
- Virtual Switchboard to facilitate automation
73% of patients download App
40% able to test App ahead of appointment
Advanced Liver Disease and Post-Liver Transplant Visits from March 2nd to April 26th, 2020

Serper et al. J Hepatology, 2020
https://doi.org/10.1016/j.jhep.2020.05.022
Penn Division of Gastroenterology and Hepatology

Visit Volume 1/2/2020 – 5/22/2020

At 98.9 % of Pre-COVID Visits
Key Partners for Telemedicine Infrastructure

- **Legal / Regulatory**: Reviews all Connected Health contracts prior to piloting. Regular engagement with Office of General Counsel over legal/regulatory/licensing questions.

- **Clinical**: Clinical program leads, BAs, and COOs are critical for program development and integrating connected health activities into the clinical programs.

- **Technology**: Organizational commitment and IT support to a video solution that is HIPAA compliant and integrated into EMR.

- **Billing/Compliance**: Understand opportunities for reimbursement. Facilitated the ability to charge patients in Epic and identifying which patients we can bill either directly or to the insurance company.

- **Administration**: Formalizing the program development process and connecting the program leads to other parts of the organization. Helps to standardize Connected Health programs across Penn Medicine and actively looking for new opportunities to scale select programs.

Courtesy of Liz Deleener, Penn Connected Health
How do Providers Feel About Telemedicine?
Providers: Concerns About Using Telemedicine (n=63)

Workflow/Scheduling
Follow-Up/Labs
Patient Acceptance

No physical exam

Technology Issues
Anxiety
Patient Issues
Liability
<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>In Practice &lt; 20 years</th>
<th>In Practice 20+ years</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ease of software download</td>
<td>N=63</td>
<td>N=47</td>
<td>N=16</td>
<td>0.076</td>
</tr>
<tr>
<td>Very dissatisfied</td>
<td>2 (3.3%)</td>
<td>4 (9%)</td>
<td>0 (0%)</td>
<td></td>
</tr>
<tr>
<td>Somewhat dissatisfied</td>
<td>1 (1.6%)</td>
<td>16 (35%)</td>
<td>5 (31%)</td>
<td></td>
</tr>
<tr>
<td>Neither satisfied nor dissatisfied</td>
<td>4 (6.6%)</td>
<td>23 (50%)</td>
<td>10 (63%)</td>
<td></td>
</tr>
<tr>
<td>Somewhat satisfied</td>
<td>14 (23.0%)</td>
<td>3 (7%)</td>
<td>1 (6%)</td>
<td></td>
</tr>
<tr>
<td>Very satisfied</td>
<td>40 (65.6%)</td>
<td>6 (51%)</td>
<td>6 (38%)</td>
<td></td>
</tr>
<tr>
<td>Overall visit quality</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very dissatisfied</td>
<td>1 (1.6%)</td>
<td>1 (2%)</td>
<td>0 (0%)</td>
<td></td>
</tr>
<tr>
<td>Neither satisfied nor dissatisfied</td>
<td>7 (11.3%)</td>
<td>5 (11%)</td>
<td>2 (13%)</td>
<td></td>
</tr>
<tr>
<td>Somewhat satisfied</td>
<td>28 (45.2%)</td>
<td>21 (46%)</td>
<td>7 (44%)</td>
<td></td>
</tr>
<tr>
<td>Very satisfied</td>
<td>26 (41.9%)</td>
<td>19 (41%)</td>
<td>7 (44%)</td>
<td></td>
</tr>
<tr>
<td>Overall satisfaction with care provided</td>
<td>0.057</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very dissatisfied</td>
<td>1 (1.6%)</td>
<td>1 (2%)</td>
<td>0 (0%)</td>
<td></td>
</tr>
<tr>
<td>Somewhat dissatisfied</td>
<td>3 (4.8%)</td>
<td>0 (0%)</td>
<td>3 (19%)</td>
<td></td>
</tr>
<tr>
<td>Neither satisfied nor dissatisfied</td>
<td>6 (9.7%)</td>
<td>4 (9%)</td>
<td>2 (13%)</td>
<td></td>
</tr>
<tr>
<td>Somewhat satisfied</td>
<td>25 (40.3%)</td>
<td>20 (43%)</td>
<td>5 (31%)</td>
<td></td>
</tr>
<tr>
<td>Very satisfied</td>
<td>27 (43.5%)</td>
<td>21 (46%)</td>
<td>6 (38%)</td>
<td></td>
</tr>
<tr>
<td>Would use telemedicine in the future</td>
<td>0.12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Probably will not</td>
<td>1 (1.6%)</td>
<td>0 (0%)</td>
<td>1 (6%)</td>
<td></td>
</tr>
<tr>
<td>Not Sure</td>
<td>3 (4.9%)</td>
<td>1 (2%)</td>
<td>2 (13%)</td>
<td></td>
</tr>
<tr>
<td>Probably will</td>
<td>13 (21.3%)</td>
<td>10 (22%)</td>
<td>3 (19%)</td>
<td></td>
</tr>
<tr>
<td>Definitely will</td>
<td>44 (72.1%)</td>
<td>34 (76%)</td>
<td>10 (63%)</td>
<td></td>
</tr>
<tr>
<td>Net Promoter Score (50+ considered excellent)</td>
<td>52</td>
<td>54</td>
<td>44</td>
<td>NS</td>
</tr>
</tbody>
</table>
Patient Perceptions: First 4 weeks of COVID-19 Response (n=788)

Telephone Versus Video

- Concerns about visit
- Visit as good/better
- Easy to use
- High visit quality
- Highly satisfied with care
- Would use in future

© 2020 AMERICAN ASSOCIATION FOR THE STUDY OF LIVER DISEASES
WWW.AASLD.ORG
Patient Perceptions: First 4 weeks of COVID-19 Response (n=788)

Non-White Versus White

- Concerns about visit
- Visit as good/better
- Easy to use
- High visit quality
- Highly satisfied with care
- Would use in future

0% 20% 40% 60% 80% 100%

© 2020 AMERICAN ASSOCIATION FOR THE STUDY OF LIVER DISEASES
WWW.AASLD.ORG

67
Patient Perceptions: First 4 weeks of COVID-19 Response (n=788)

Age

Concers about visit
Visit as good/better
Easy to use
High visit quality
Highly satisfied with care
Would use in future

Age <60  Age ≥60
Patients: Top Words or Phrases that Come to Mind about Telemedicine

- Effective
- Professional
- Efficient
- Satisfy
- Prompt
- Helpful
- Positive
- Fast
- Personal
- Quick
- Great
- Convenient
- Complete
- Alright
- Excellent
- Clear
- Comfortable
- Good
- Informative
- Easy
- Safe
What About Disparities in Telemedicine?
Patient Visits by Age, Language, and Insurance Before and After Telemedicine Scale-Up

This chart shows the proportion of patient visits seen by age, language preference, and insurance type prior to (2/17–2/28/2020) and after (3/23–4/3/2020) scaled-up telemedicine implementation to address the Covid-19 pandemic at the UCSF General Internal Medicine Primary Care Practice (P=0.002 for age ≥65 and P<0.001 for other comparisons). A significantly smaller proportion of visits after scaled-up telemedicine implementation were with vulnerable patients.
Patient Visits by Race/Ethnicity Before and After Telemedicine Scale-Up

This chart shows the proportion of patient visits seen by patient race/ethnicity prior to (2/17–2/28/2020) and after (3/23–4/3/2020) scaled-up telemedicine implementation to address the Covid-19 pandemic at the UCSF General Internal Medicine Primary Care Practice (P=0.006 using chi-squared test). A smaller proportion of visits with vulnerable populations occurred after implementation.
Equity in Telemedicine: Best Practices

Pay attention to vulnerable populations: older age, lower SES, limited English Proficiency

Ensure high-quality interpreter services

Mitigate digital literacy and resource barriers: train patients in technology use, provide information on affordable broadband options

Be flexible in offering video and telephone

Advocate for policy changes to support sustained and equitable access

Conclusions

- Role of telemedicine was rapidly expanding, but has been exploding since COVID-19 with lifting of regulatory and reimbursement hurdles

- Evidence for high patient satisfaction, easy integration into clinical workflow, and even superior patient outcomes

- Changes with COVID pandemic - opportunity NOT to revert to the previous state and leverage telemedicine to improve care for our patients

- Must pay attention to unintended consequences & potential to exacerbate health disparities
Useful Links


- **Medicare Regulations:** https://www.cms.gov/newsroom/fact-sheets/medicare-telemedicine-health-care-provider-fact-sheet

- **General Telehealth Resources**
  https://www.cchpca.org/resources/covid-19-telehealth-coverage-policies

- **Licensure:** https://www.fsmb.org/advocacy/covid-19/
Acknowledgements


This work was supported by the Penn Center for HealthCare Innovation

Marina Serper is supported by National Institute of Diabetes and Digestive and Kidney Diseases, award #1K23DK115897-03

marinas2@pennmedicine.upenn.edu
Achieving the goals of quality care while embracing telehealth

Elliot Tapper MD
University of Michigan
Elliot B. Tapper, M.D.
Assistant Professor of Medicine
University of Michigan

This presenter has the following declarations of relationship with industry:

• NIH K23 research grant
• Grants to Michigan: Gilead, Valeant
• Ad boards: Rebiotix, Mallinckrodt, Bausch
• Consulting: Allergan, Axcella, Kaleido, Novartis, Novo Nordisk
Goals of:

These 10 minutes

Quality care
Procedures
Tests
Visits
Is our use ultrasound a threat to telemed?
Who needs HCC screening?

Why do they come to clinic?
Two things
Track
Accommodate
COVID Visit Kinetics

Proportion Telemed visits

Phreesia data, Mehrotra, Commonwealth Fund

© 2020 AMERICAN ASSOCIATION FOR THE STUDY OF LIVER DISEASES
WWW.AASLD.ORG
How will quality survive?

Collaboration
Optimal outcomes take a village

Outcomes optimized by less concentrated care
The ECHO model
How will quality thrive?
<table>
<thead>
<tr>
<th>Patient-Reported Item</th>
<th>Not Important (%)</th>
<th>Somewhat Important (%)</th>
<th>Very/Extremely Important (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluid in the legs (edema)</td>
<td>8.9</td>
<td>14.1</td>
<td>76.9</td>
</tr>
<tr>
<td>Fluid in the belly (ascites)</td>
<td>3.8</td>
<td>5.1</td>
<td>91.1</td>
</tr>
<tr>
<td>Confusion (encephalopathy)</td>
<td>1.3</td>
<td>10.1</td>
<td>88.6</td>
</tr>
<tr>
<td>Concentration/memory</td>
<td>6.4</td>
<td>16.7</td>
<td>76.9</td>
</tr>
<tr>
<td>Itching (pruritus)</td>
<td>5.2</td>
<td>12.9</td>
<td>81.8</td>
</tr>
<tr>
<td>Muscle cramps</td>
<td>12.9</td>
<td>36.4</td>
<td>50.7</td>
</tr>
<tr>
<td>Falls</td>
<td>12.8</td>
<td>17.9</td>
<td>69.2</td>
</tr>
<tr>
<td>Medication side effects</td>
<td>8.9</td>
<td>17.9</td>
<td>73.1</td>
</tr>
<tr>
<td>Depression</td>
<td>7.6</td>
<td>21.7</td>
<td>70.5</td>
</tr>
<tr>
<td>Stigma of having liver disease</td>
<td>5.1</td>
<td>14.1</td>
<td>80.8</td>
</tr>
<tr>
<td>Ability to drive</td>
<td>10.1</td>
<td>22.8</td>
<td>67.1</td>
</tr>
<tr>
<td>Burden on family</td>
<td>35.1</td>
<td>5.2</td>
<td>59.8</td>
</tr>
<tr>
<td>Ability to avoid alcohol</td>
<td>17.1</td>
<td>18.4</td>
<td>64.4</td>
</tr>
<tr>
<td>Sample Question(s)</td>
<td>Therapeutic Options</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• How often during the last 2 weeks have you had muscle cramps?</td>
<td>• Normalize electrolytes and fluid balance</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Taurine (3 g daily)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Vitamin E (300 mg three times a day)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Baclofen (5–10 mg three times a day as needed)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• How much of the time have you been troubled by itching during the last 2 weeks?</td>
<td>• Moisturizing cream for dry skin</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Cholestyramine (4 g daily)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Naltrexone (50 mg daily)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Sertraline (75–100 mg daily)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Ursodeoxycholic acid (13–15 mg/kg/day in 2 doses)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Have you had difficulty sleeping at night?</td>
<td>• Optimize treatment for HE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Have you felt sleepy during the day?</td>
<td>• Optimize sleep hygiene</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Referral to sleep specialist to assess for sleep apnea</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Mindfulness training</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Melatonin (3–5 mg daily)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Have you had any sexual activity in the past few weeks?</td>
<td>• Phosphodiesterase inhibitors (e.g., sildenafil 25–100 mg as needed)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• How satisfied were you with your sexual function during the past few weeks?</td>
<td>• Sex therapy referral</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Referral to Urology</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
At-risk population
Proactive beta-blocker

β blockers to prevent decompensation of cirrhosis in patients with clinically significant portal hypertension (PREDESCI): a randomised, double-blind, placebo-controlled, multicentre trial

A

Cumulative incidence function for primary endpoint

- Placebo group
- β-blocker group

HR 0.51 (95% CI 0.26-0.97)

p value < 0.0412

Patients at risk

<table>
<thead>
<tr>
<th>β Blockers</th>
<th>Placebo</th>
<th>Placebo</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>101</td>
<td>98</td>
</tr>
<tr>
<td>96</td>
<td>99</td>
<td>87</td>
</tr>
<tr>
<td>87</td>
<td>94</td>
<td>80</td>
</tr>
<tr>
<td>80</td>
<td>86</td>
<td>69</td>
</tr>
<tr>
<td>69</td>
<td>72</td>
<td>60</td>
</tr>
<tr>
<td>60</td>
<td>59</td>
<td>48</td>
</tr>
<tr>
<td>48</td>
<td>42</td>
<td>31</td>
</tr>
<tr>
<td>31</td>
<td>26</td>
<td>20</td>
</tr>
<tr>
<td>20</td>
<td>19</td>
<td>15</td>
</tr>
<tr>
<td>15</td>
<td>13</td>
<td>7</td>
</tr>
</tbody>
</table>

Primary outcome (deaths)

<table>
<thead>
<tr>
<th>β Blockers</th>
<th>Placebo</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (1)</td>
<td>2 (2)</td>
</tr>
<tr>
<td>3 (1)</td>
<td>5 (1)</td>
</tr>
<tr>
<td>4 (2)</td>
<td>1</td>
</tr>
<tr>
<td>5 (2)</td>
<td>1 (1)</td>
</tr>
<tr>
<td>1 (1)</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>1 (1)</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Censoring events

<table>
<thead>
<tr>
<th>β Blockers</th>
<th>Placebo</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>8</td>
<td>13</td>
</tr>
<tr>
<td>8</td>
<td>14</td>
</tr>
<tr>
<td>17</td>
<td>6</td>
</tr>
<tr>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

© 2020 AMERICAN ASSOCIATION FOR THE STUDY OF LIVER DISEASES
WWW.AASLD.ORG
12%
Collaboration

Expansion

Pro-action
Panel Discussion

Please submit your questions to the Q&A Chat now.
AASLD’s COVID-19 Resources

Follow/Share: COVID-19 Resources
Webpage: www.aasld.org/covid19

Join/Engage: COVID-19 Care
Community on AASLD’s online community, Engage. Open to all members. Log in to Engage with your AASLD user name and password: engage.aasld.org/covid19

Submit: Hepatology, Liver Transplantation, Hep Commun all accepting and fast tracking review of COVID-19 original articles, case reports
Submit abstracts at aasld.org/LMabstracks