

Ongoing Resources List

Resources from today's session and past sessions can be found in our ongoing resources list:

<https://iecho.unm.edu/sites/uidaho/download.hns?i=440>

Today's Agenda

Time (MT)	Presentation	Presenter(s)
Noon – 12:05 pm	Welcome, Announcements, Introductions	Lachelle Smith, Director, ECHO Idaho
12:05 – 12:10 pm	Idaho Epidemiology Curves and Public Health Updates	Carolyn Buxton Bridges, MD, FACP
12:10 – 12:15 pm	Treatment Updates	Cathy Oliphant, PharmD
12:15 – 12:35 pm	Balancing Parenting in the Unbalanced World of COVID-19	Sean Nixon, LCPC-S, LMFT-S
12:35 – 12:55 pm	Patient Case Presentation	Julia Hill, MD
12:50 – 1 pm	Closing Pearls, Announcements, Call to Action	ECHO Panelists Lachelle Smith, Director, ECHO Idaho



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Idaho Epidemiology Curves and Public Health Updates

Carolyn Buxton Bridges, MD, FACP

Governor's Coronavirus Working Group, Former CDC Public Health Physician and Researcher



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Case Counts and SARS-CoV-2 PCR Testing in Idaho

	5/19/2020	5/23/2020	Number New
Total lab-confirmed and probable	2,455	2,626	171
Deaths	74	79	5
Hospitalizations	213	225	12
ICU admissions	89	94	5
Healthcare personnel	295	300	5
Total tests	37,847	41,167	3,320

<https://coronavirus.idaho.gov>

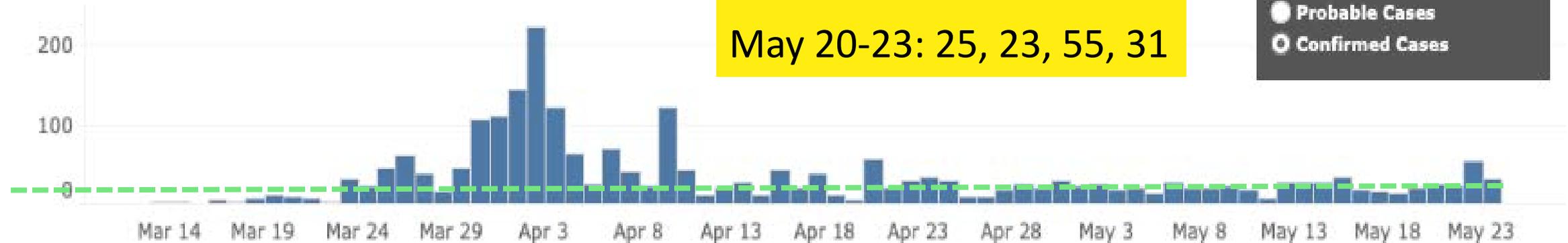
Due to holiday weekend, case counts updated next on Tuesday 5/24/2020 at 5 PM.

Rebound Idaho Criteria

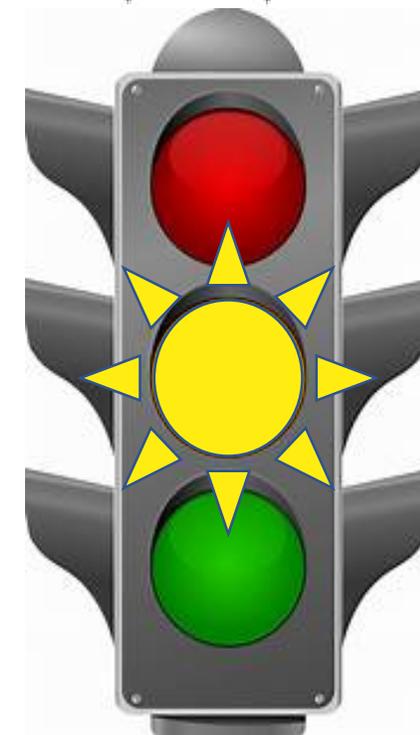
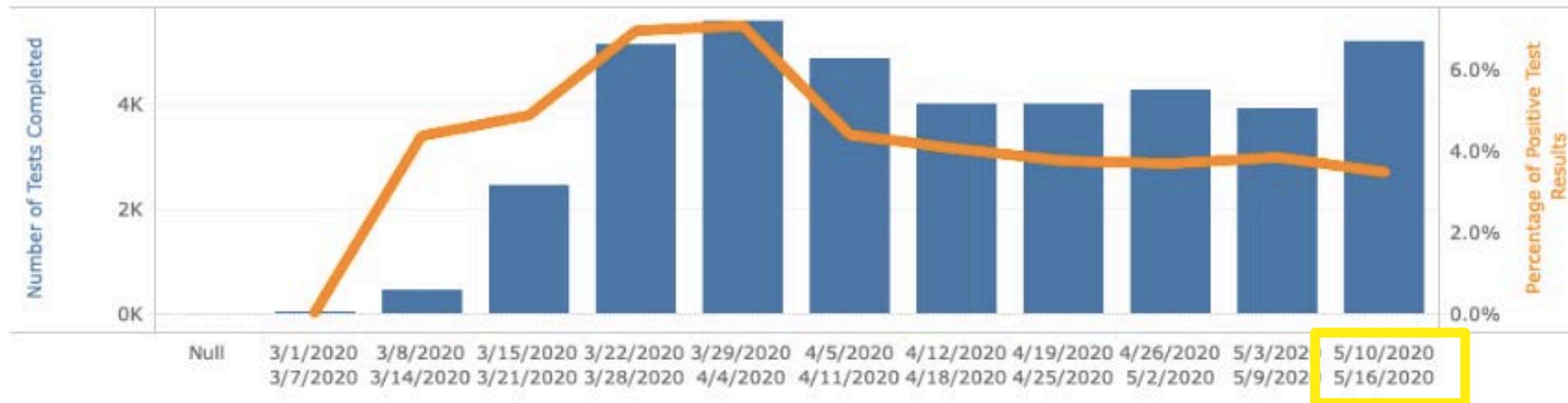
- Epi/capacity criteria required to move to next stage –Epidemiology data examples
 - Downward trend or <20 /day on average over 14 days lab confirmed COVID-19 cases OR Downward trend of % positive COVID-19 PCR in 14-day period (including flat or increasing volume of tests)
 - Downward trend or <20 /day on average over 14 days ED visits for suspected COVID-19 cases
- Next phase Stage 3 – May 30 ***if criteria met***
 - Outdoor pools, waterparks, bars, breweries, wineries, distilleries
 - Gatherings 10-50 people if social distancing and hygiene can be maintained

COVID-19 Cases by Date of Onset, Idaho

Cases by Report Date



Weekly Percent Positivity of PCR Testing by Specimen Collection Date¹



- Recently identified outbreak among workers at food processing plants in Weiser, Jerome, Kuna
- Continued emphasis on mask use, hygiene, social distancing, limiting numbers of contacts, and other measures to prevent spread and increased intensity of outbreaks



Grayjaypress.com



Chapter.ser.org



Npr.org

Update on Idaho Testing Recommendations

- Provides estimates of weekly testing needs if robust testing conducted
 - Identified gap between optimal testing volume and current capacity
 - Efforts underway to address those gaps
- Preferred test is PCR-testing
 - Limited roles for serologic testing
- Prioritized groups for testing with emphasis on:
 - Symptomatic persons, including HCP, hospitalized patients, vulnerable populations
 - Asymptomatic persons living or working in congregate living situations, e.g. LTCF, prisons, homeless shelters, and new admissions to such congregate living facilities
 - Workers in settings with close contact, critical workforce, e.g. food production

Serologic Testing Recommendations

- Use high sensitivity and specificity tests, preferably with FDA EUA or other strong evidence of accurate test performance.
- Utility limited with regards to decision making for individual persons
 - Adjunctive diagnostic for patients presenting late in course of illness molecular testing not practical (or available), but for whom the suspicion of SARS-CoV- 2 infection is high.
 - Results would not impact return to work or use of PPE decisions
 - Level and duration of protection from detected antibody unknown
 - Paired serum samples (sero-conversion) can be helpful in identifying new infections
- Estimate population seroprevalence, identify risk factors for infection.
- Testing event opportunity to counsel patients on COVID-19 prevention

<https://rebound.idaho.gov/wp-content/uploads/testing-recommendations.pdf>

Serologic Testing

Impact of Test Sensitivity and Specificity, and Population Prevalence on Positive Predictive Value of Antibody Testing

Less Sensitive and Specific Test			
Sensitivity	Specificity	Prevalence	Positive Predictive Value
0.9	0.9	0.1%	0.009
		0.5%	0.043
		1%	0.083
		5%	0.32
		10%	0.5
		20%	0.69

More Sensitive and Specific Test			
Sensitivity	Specificity	Prevalence	Positive Predictive Value
0.99	0.99	0.1%	0.09
		0.5%	0.33
		1%	0.5
		5%	0.84
		10%	0.92
		20%	0.96

- FDA now with new information about each test with an EUA and its sensitivity, specificity, NPV and PPV

<https://rebound.idaho.gov/wp-content/uploads/testing-recommendations.pdf>

<https://www.fda.gov/medical-devices/emergency-situations-medical-devices/eua-authorized-serology-test-performance>.

Treatment Updates

Cathy Oliphant, PharmD

Infectious Disease, Professor and Interim Chair, ISU College of Pharmacy



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* Hydroxychloroquine (Plaquenil)/Chloroquine

- Use/Rationale
 - Inhibits pH-dependent steps of viral replication – may block virus entry into cells
 - Immune modification – decreases production of cytokines – anti-inflammatory
- Dosage - Treatment
 - Hydroxychloroquine (+/- azithromycin)
 - Better tolerated than chloroquine
 - 400 mg BID day 1 then 200 mg BID days 2-5
 - When to initiate therapy
 - Chloroquine
 - 500 mg BID x 10 days
- Drug Interactions
- Adverse Effects
 - **Cardiac toxicity**
 - QT prolongation (AE of azithromycin too)
 - Use with caution if baseline QTc > 500
 - Use with caution if hypokalemia, uncontrolled diabetes, known G6PD deficiency, renal impairment, myasthenia gravis
 - GI – N/V/D
 - CNS – headache, dizziness, irritability, nightmares, seizures

Hydroxychloroquine Efficacy and Safety

- Multiple studies reporting safety data on hydroxychloroquine or chloroquine point to potential harms with lack of efficacy
- As of Monday, WHO has suspended HCQ/CQ trials
- FDA, at end of April, has stated concerns re HCQ/CQ use without further randomized, controlled clinical trials demonstrating clinical benefit from these agents



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Association of Treatment With Hydroxychloroquine or Azithromycin With In-Hospital Mortality in Patients With COVID-19 in New York State (JAMA)

- Retrospective, multicenter cohort study of patients with lab confirmed COVID in 25 NYC metro region hospitals
- Evaluated 1438 hospitalized patients
 - 88.2% of patients from 3/15-3/28/2020
- Patients received:
 - Hydroxychloroquine alone
 - HCQ + azithromycin
 - Azithromycin
 - Neither

*70% received HCQ +/- azithromycin
- Overall in-hospital mortality 20.3%
- Probability of death:
 - HCQ 19.9%
 - HCQ + azithro 25.7%
 - Azithro 10%
 - Neither 12.7%
- Adjusted hazard ratio for in-hospital mortality”
 - HCQ 1.08
 - HCQ + azithro 1.35
- Treatment with hydroxychloroquine, azithromycin, or both was not associated with significantly lower in-hospital mortality.

Hydroxychloroquine or chloroquine with or without a macrolide for treatment of COVID-19: a multinational registry analysis (Lancet)

- Observational, multinational registry analysis
 - In-hospital mortality
 - Occurrence of new arrhythmias
- Data from 671 hospitals in 6 continents
 - 96,032 patients hospitalized for COVID from 12/20/19-4/14/20
- Patients had received:
 - HCQ
 - HCQ + azithro
 - CQ
 - CQ + azithro
- Mortality
 - Overall, 11.1% died
 - Control 9.3%
 - HCQ 18% (HR 1.3)
 - HCQ + azithro 23.8% (HR 1.4)
 - CQ 16.4% (HR 1.4)
 - CQ + azithro 22.2% (HR 1.4)
- Arrhythmias/rhythm complications
 - HCQ alone 6.1% (HR 2.4)
 - HCQ + azithro 8.1% (HR 5.1)
- Lack of clinical benefit and potential harm



Hydroxychloroquine (HCQ)/Chloroquine (CQ): IDSA Guidelines on Treatment Recommendations

- For inpatients, the panel recommends HCQ/CQ use in the context of a clinical trial
- For inpatients, they recommended HCQ/CQ plus azithro only through a clinical trial
- Avoid HCQ/CQ + azithro in the outpatient setting due to lack of adequate monitoring for QT prolongation
- All therapies are recommended in the context of a clinical trial
- Recommend that patients be enrolled into ongoing trials, which will provide much needed evidence on safety and efficacy
- Current data has failed to demonstrate or to exclude a beneficial effect of HCQ/CQ on clinical progression or on viral clearance by PCR
- Harms: QT prolongation, GI

Ongoing Clinical Trials – Hydroxychloroquine/Chloroquine

- Websites
 - NIH
 - Clinicaltrials.gov
- COVID patients
 - Mild
 - Moderate
 - Severe
 - Hospitalized
- Pre-exposure prophylaxis
- Post-exposure prophylaxis or preemptive treatment
- Current clinical trials
 - NIAID phase 2b clinical trial (5/20)
 - ORCHID Study (NIH)
 - Post-exposure/Pre-emptive treatment study
 - NCT 04308668
 - <https://clinicaltrials.gov/ct2/show/NCT04308668>
 - Pre-exposure study
 - Covidpep.umn.edu



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Remdesivir – Emergency Use Authorization

- **FDA issued emergency use authorization (EUA) on May 1, 2020**

“It is reasonable to believe that remdesivir may be effective in treating COVID-19, and that, given there are no adequate, approved, or available alternative treatments, the known and potential benefits to treat this virus currently outweigh the known and potential risks of the drug’s use”

- Emergency use authorization is for the treatment of suspected or laboratory confirmed COVID-19 in hospitalized adults and children with severe disease
- Based on a clinical trial where it was shown to reduce the time to recovery in some patients
- This allows for distribution and emergency use of remdesivir only for the treatment of COVID-19; it remains an investigational drug and is not FDA approved



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Remdesivir

Mechanism of Action

- Prodrug
- Broad-spectrum antiviral
- Inhibits coronaviruses
- Inhibits SARS-CoV-2 replication in nasal and bronchial cells
- Prematurely terminates viral RNA transcription

Dosage

- * Emergency Use Authorization dosing for adults and children > 40 kg
- 200 mg IV day 1 followed by 100 mg IV daily on days 2-5 (for patients not requiring mechanical ventilation) – with option to extend to 10 days of treatment
- 200 mg IV day 1 followed by 100 mg IV daily on days 2-10 (for patients requiring mechanical ventilation)

Clinical Experience: Non-Randomized

Compassionate Use of Remdesivir for Patients with Severe Covid-19 in NEJM 4/10/2020

- 53 patients
 - 57% mechanical ventilation + 18% on ECMO
- Clinical improvement in 36/53 patients after median of 18 days post 1st dose of remdesivir
- 7 deaths (6 on mechanical vent)
- Not randomized, lack of a control group

Phase 3 Study to Evaluate the Safety and Antiviral Activity of Remdesivir

- 397 patients
 - Not on mechanical vent at entry
 - 200 received 5 day regimen
 - 197 received 10 day regimen
- Clinical improvement occurred in 50% of patients in the 5 day group at 10 days vs 11 days in the 10 day group
- Those who received treatment w/in 10 days of s/s had improved outcomes

<https://www.ashp.org/Pharmacy-Practice/Resource-Centers/Coronavirus>; <https://www.cdc.gov/coronavirus/2019>; Study to evaluate the safety and antiviral activity of remdesivir (GS-5734) in participants with severe coronavirus disease (COVID-19). NCT04292899. (<https://www.clinicaltrials.gov/ct2/show/NCT04292899>)<https://www.who.int/emergencies/diseases/novel-coronavirus-2019>; <https://www.sccm.org/SurvivingSepsisCampaign/Guidelines/COVID-19>; www.sidp

Remdesivir in adults with severe COVID-19: a randomized double-blind, placebo controlled, multicenter trial (Lancet 4/29/20)

- Hubei, China 2/6-3/12/2020
- Study terminated before target number of patients enrolled
- 237 patients
 - 158 remdesivir
 - 79 placebo
 - > 18 years old
 - In-patient w/lab diagnosis
 - Interval of s/s onset to enrollment of ≤ 12 days
 - O2 sat < 94% on room air
 - Only 0.4% mechanical ventilation
 - Concomitant meds
 - Lopinavir-ritonavir, interferons, corticosteroids
- Remdesivir was not associated with statistically significant clinical benefits
 - 21 days vs 23 days
 - 28 day mortality: 14% remdesivir vs 13% placebo
- Remdesivir-treated patients, with symptom duration of ≤ 10 days experienced a faster time to clinical improvement than those receiving placebo
 - Not statistically significant
 - Median 5 day reduction in time to clinical improvement (18 days vs 23 days)
- AEs
 - Remdesivir 66% vs placebo 64%
 - Remdesivir was stopped early in 18 patients vs 4 placebo treated



Remdesivir: Adaptive COVID-19 Treatment Trial (ACTT) - NIH randomized, controlled clinical trial

- Randomized, controlled trial sponsored by the NIAID
- Enrollment 2/21-4/19/20
- 68 sites in the US, 21 countries in Europe and Asia
- 1063 patients
- Remdesivir treated patients had a recovery time of 11 days as compared with 15 days in the control group
 - **31% faster recovery time (p<.001)**
- Results also suggest a survival benefit
 - Remdesivir treated patients had a mortality rate of 8% vs 11.6% for the control group (p=.059)



Ongoing Remdesivir Studies

- Gilead study in patients with moderate disease: [NCT04292730](https://clinicaltrials.gov/ct2/show/study/NCT04292730)
- Gilead study in patients with severe disease: [NCT04292899](https://clinicaltrials.gov/ct2/show/study/NCT04292899)
- NIAID study: [NCT04280705](https://clinicaltrials.gov/ct2/show/study/NCT04280705)
- INSERM study: [2020-000936-23](https://clinicaltrials.gov/ct2/show/study/2020-000936-23)
- China study in patient with mild/moderate disease: [NCT04252664](https://clinicaltrials.gov/ct2/show/study/NCT04252664)
- China study in patients with severe disease: [NCT04257656](https://clinicaltrials.gov/ct2/show/study/NCT04257656)

<https://www.gilead.com/purpose/advancing-global-health/covid-19/remdesivir-clinical-trials#>



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Triple Combination of Interferon Beta-1b, Lopinavir–Ritonavir, and Ribavirin in the Treatment of Patients Admitted to the Hospital With COVID-19 (Lancet)

- Prospective, multicenter, randomized, phase 2 trial in 6 hospitals in Hong Kong
- 127 patients enrolled 2/10-3/20/20
 - Median # days from s/s to initiation of therapy was 5 days
- Patients received 14 days of:
 - Lopinavir 400 mg/ritonavir 100 mg Q12h + ritonavir 400 mg 12h + interferon beta-1b 8 million units x 3 doses on alternate days OR
 - Lopinavir 400 mg/ritonavir 100 mg Q12h
- Triple therapy group had a shorter time from start of treatment to negative nasopharyngeal swab (7 days vs 12 days; $p=0.001$)
- Triple therapy group had a shorter LOS (9 days vs 14.5 days)
- Time to national early warning score 2 (NEWS2) score = 0 was 4 days vs 8 days
- Time to zero SOFA score was reduced from 8 days to 3 days



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Famotidine Use is Associated with Improved Clinical Outcomes in Hospitalized COVID-19 Patients: A Propensity Score Matched Retrospective Cohort Study

- Retrospective cohort study initially non-ICU patients at a single medical center from 2/25-4/13/20
- 1620 patients reviewed
 - 84 received famotidine w/in 24 hrs of admission
 - Famotidine 10 mg 17%
 - Famotidine 20 mg 47%
 - Famotidine 40 mg 35%
- Famotidine associated with reduced risk for death or intubation (adjusted HR 0.42)
- Famotidine associated with reduced risk for death alone (adjusted HR 0.30)
- PPIs were not associated with reduced risk for death or intubation

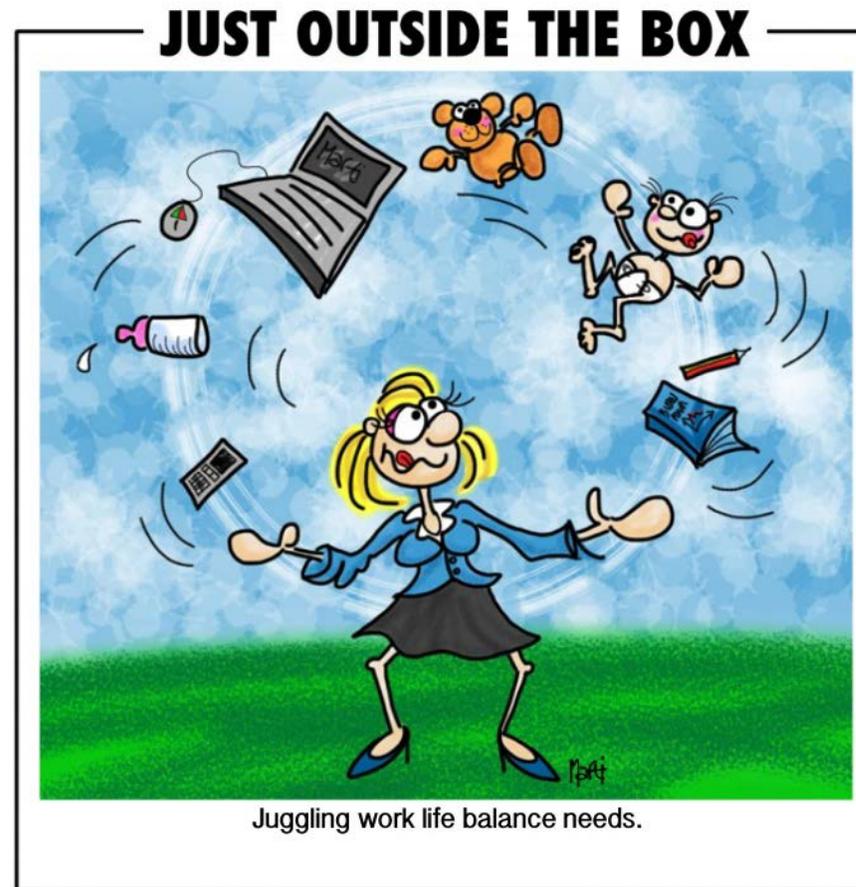


Clinical Trials/Websites

- Remdesivir
 - <https://rdvcu.gilead.com/>
- ClinicalTrials.gov
 - <https://clinicaltrials.gov/ct2/results?cond=COVID-19>
- Famotidine
 - <https://clinicaltrials.gov/ct2/show/NCT04370262?term=famotidine&cond=COVID&draw=2&rank=1>



Balancing Parenting in the Unbalanced World of COVID-19



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Sean Nixon, LCPC-S, LMFT-S

Pediatric Behavioral Health Therapist, Children's Rehabilitation, St. Luke's - Caldwell

Today's Topics



Balance

Expectations
Stress
School
Work



Strengthen

Mistakes
Connections

Ways to balance expectations

- Set a schedule
 - Regular bedtimes
 - Regular mealtimes
 - Child schedules should be 4-6 hours
 - Plan out a daily family activity (30-60minutes)





Balance Stress

- Parents are not good at hiding stress from children
 - It is important to normalize the stress
 - Be willing to answer your children's questions
 - One way to normalize the stress and worries for your children is to ask your child what they think, or feel is happening.



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Work into your routine,
to destress

- Go for a walk
- Plan times of quietness
- Eat Meals, don't graze
- Turn off electronics
- Get up and Move



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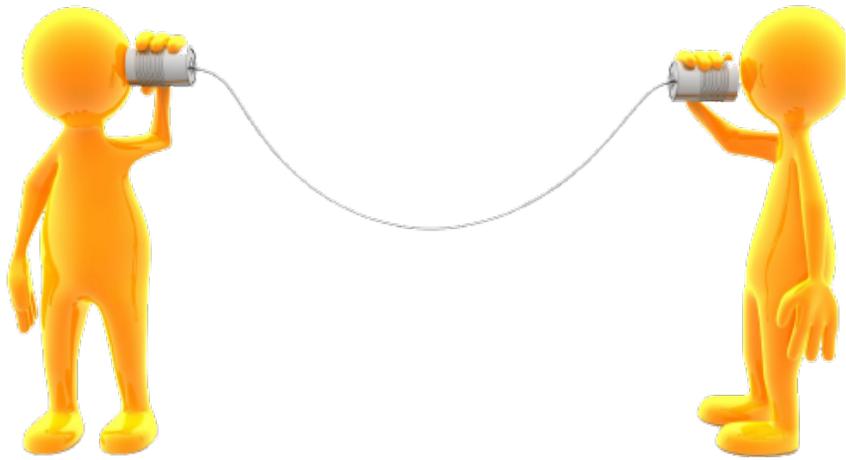




Schooling

- Parents are facilitators, not teachers.
 - Weigh Expectations
 - What can you and your kids accomplish in a day?
 - What is required each day, each week?
 - Identify what you know and what you do not know
 - Are you the best family member to be helping with topic?
 - What topics bring back memories of your own schooling?

Schooling



- Use your resources
 - Communicate with school, teachers, resource rooms and administrator's
 - Be honest with your struggles and your needs
 - Be honest about your child's struggles and needs
 - Use this opportunity to demonstrate how to ask for help
- Help your children to identify what they can do independently and what they need help with

Strengthening Family

The more time spent together, the more opportunity for mistakes and connections.



Many parents are reporting more arguments and squabbles at home.

Two ways to grow and strengthen during this time

- Repair our mistakes
- Connect more fully

Repair our mistakes

- Take a Breather
 - Before doing anything give yourself a timeout
 - Get back to calm
 - Take a walk
 - Deep Breathes
 - Drink a cold glass of water
- Own up
 - Apologize sincerely
 - No using and or but

As parents, we guide by our unspoken example. It is only when we're talking to them that our kids aren't listening.

—Robert Brault



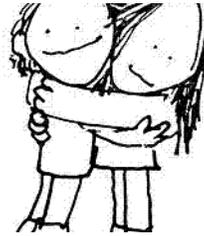
Repair our mistakes



Be Curious

After apologizing, ask how your child feels?

Don't, rebut what they share.



Hug it Out

Offer an opportunity for a snuggle, cuddle, hug or a pat.



Let it Go

Do not bring it up again.



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Repair their Mistakes

- Our children will make mistakes
 - It is important to set clear expectations
 - Clear expectations
 - Identify what you want, not what you don't want
 - Be sure to acknowledge the positives, no matter how small
 - Do not try to engage child on mistakes, while they are overwhelmed
 - Allow for both of you to return to calm
 - Offer clear and concise options
 - Use Clear and concise consequences, that are consistent.

Connections - one-on-one time



- Set aside time to spend with each child, all it takes is 20 minutes a day
 - Set a schedule, so kids look forward to the time
 - Ideas with baby/toddler
 - Copy expressions and/or sounds
 - Sing songs, make music
 - Stack Items
 - Tell a story, read a book

Connections - one-on-one time

- Ideas with young children
 - Read a book, look at pictures
 - Draw together
 - Dance to music or sing songs
 - Do a chore together
 - Play a game
- Ideas with Teenagers
 - Talk about an interest
 - Cook a meal together
 - Exercise together
- It is important that you get on the child's level and let them choose the activity



Connections

- Keep it Positive
 - Tell your children what they have done correct
 - Focus on what your child can do
 - Allow time for children to be heard



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Connections



- Get Structured
 - Make a consistent schedule for you and your children, allow for flexibility
 - Include physical activity daily
 - Set clear expectations
 - Hand washing
 - Social distancing
 - Set clear examples

Connections

- Relaxation
 - Identify was that you and your child can relax.
 - Walks
 - Deep Breathing
 - Meditation
 - Quiet Time



Connections



- Conversation
 - Be willing to talk
 - Allow your child to talk freely
 - Be honest, with your child
 - Be supportive, of your child's thoughts and feelings
 - It is OK to tell your child that you do not know.
 - Make conversation time during the day.
 - Allow, opportunity for your child to explain what they think is happening and why.



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Uncertainty brings opportunities

- Thank you for your time today.



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Closing Pearls

ECHO Panelists

Lachelle Smith, Director, ECHO Idaho



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COVID-19 ECHO More to Come...

Tuesday, June 2: Noon to 1 p.m. MT

- Alejandro Necochea, MD will discuss COVID and long-term care facilities

Starting in June, COVID sessions will be held the first and third Tuesday of the month at noon MT.



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