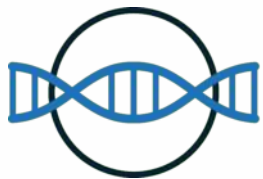


Welcome to our Series  
Please turn off your cameras and mute your audio  
We will get started shortly



**GNEM SYMPOSIUM  
SPEAKER SERIES**

*presented by The Neuromuscular Disease Foundation*



Imad Kazim



Mangesh Ghiware

**"Assistive Technologies for  
people living with GNEM"**

An introduction to electronics, software & technologies that can make life a bit easier

Friday July 17th, 2020  
12pm PDT/3pm EDT



NEUROMUSCULAR  
DISEASE FOUNDATION

Speaker Series #62620  
**Imad Kazim & Mangesh Ghiware**  
Introduction & Summary Slide for:  
**Assistive Technologies for people living with GNEM**

**An Overview of what to expect in this talk:**

- An introduction to electronics, software & technology that can make life for GNE Myopathy patients a bit easier



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# Overview

- Personal technology has improved dramatically over the last 15 years
- Smartphones → smart watches → smart devices
- Interaction patterns are evolving
- Touchscreen → Glanceable → Voice activated



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# Personal Safety



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# Local Emergency Preparedness

- Inform local fire departments at both your home and work locations of your disability and have them put you on a list of people requiring additional assistance in case of an emergency
- Reach out to local authorities and save local emergency numbers as contacts on your smartphone



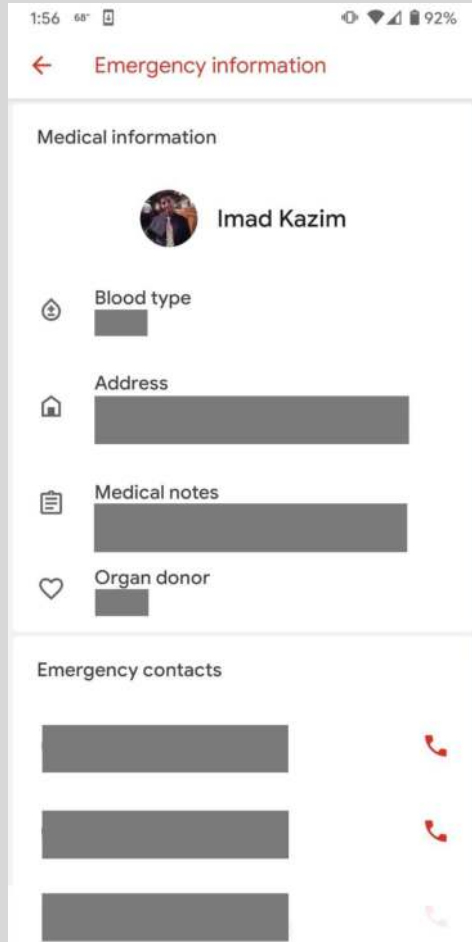
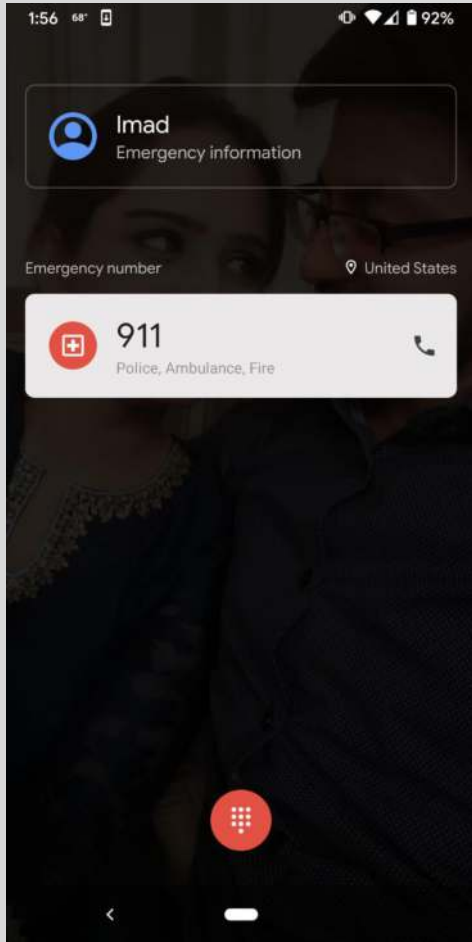
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# Emergency Contacts and Location Sharing

- Recent advances on smartphones allow you to reach your designated contacts in case of an emergency
- Location Sharing options allow your emergency contacts find you in urgent, emergency situations
- Subscription based services such as Nest Aware
- Fall detection using Apple Watch



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# Smart Devices



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# Smart displays and speakers

- Amazon Echo Show (Alexa)
- Google/Nest Home Hub (Assistant)
- Facebook Portal (Alexa)
- Apple HomePod (Siri)



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# Privacy considerations

- Always listening?
- Only Hotword detection (Alexa, OK Google, Hey Siri) is always running on device
  - False positives
- Auto-delete voice activity and history
- Trade-offs for personalized services and convenience



# Communications



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# Calling plain old telephone numbers

Alexa can call home and mobile numbers in USA and Canada

“Alexa, call my Mom”

Google Assistant can call home, mobile and business numbers in USA, Canada, and UK

“Hey Google, call Doc’s Bagels”



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# Video calling

Video calls between Amazon  
Echo devices

Facebook Portal supports  
Messenger and WhatsApp

Google Assistant can make  
video calls using Duo and  
Meet



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# Entertainment



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# Audiobooks

Alexa supports Audible

“Alexa, read me a story”

“Alexa, start Audible”

Google Assistant works with  
purchased audiobooks

“OK Google, read my book on  
the living room TV”



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# Podcasts

“Hey Siri, play the latest episode of This American Life”

Alexa requires either Spotify or Apple Podcasts to be set up

“Hey Google, play Marketplace”

“OK Google, play Wait wait, Don't tell me”



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# Radio

Alexa supports Radio stations via skills such as myTuner Radio

“Alexa, ask myTuner Radio to play KCRW”

Google Assistant and Siri have built-in support for radio stations

“OK Google, play NPR”

“Hey Siri, play BBC Radio”

# Music

Broad support for Spotify,  
YouTube Music, Apple Music,  
Pandora, etc.

“Alexa, play Disney Hits from  
Amazon Music”

“Hey Siri, play classical music”

“Hey Google, play the  
Hamilton soundtrack”

“OK Google, play Discover  
Weekly” (Spotify playlists)



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# Streaming Services

Alexa & Google Assistant  
enabled HD TVs

Amazon Fire TV

Apple TV

Chromecast / Android TV

Roku

Cord-cutting is on the rise

Netflix, Hulu, Disney+



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# Home Automation



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# Smart Lights

Speak or use your phone to operate any of these:

- Easy to control lights in hard to reach corners and those with difficult turning knobs
- Philips Hue, LIFX, WEMO, IKEA, etc.
- A cheaper alternative to smart lighting can be smart switches. Just plug in your lamp directly into a smart switch which in turn is plugged in to the wall outlet.



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# Smart Thermostats

Speak or use your phone to operate any of these:

- Thermostats (*Nest / Honeywell / ecobee*)
  - *“Hey Google, set the thermostat to 72 degrees”*
  - Automated Eco modes when away from home



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# Smart Cameras and Smart Locks

Speak or use your phone to operate any of these:

- Cameras and doorbells
  - Nest Cam, Wyze Cam,
  - Video doorbells: Ring, Nest Hello, August
- Smart locks
  - Use your phone to check who's at the door and unlock with a touch



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[Brondell. (Apr 11, 2017). Introducing the New Swash 1400 Luxury Bidet Seat (Video File). Retrieved from <https://www.youtube.com/watch?v=WJ55o6RqL5E>]

## One-touch Bidets

- ❖ Manage toilet needs independent of a caregiver
- ❖ Easier self-cleaning when it is difficult to use tissue
- ❖ Automated drying
- ❖ Increased cleanliness
- ❖ Easy-to-push buttons (some bidets come with remotes or even touchscreen buttons)
- ❖ Brondell / bioBidet / Toto



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# Productivity



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## On-screen Keyboards

- ❖ Type using a mouse and one-click word suggestions
- ❖ Perform difficult right-click functions using simple keyboard shortcuts



## Livescribe smartpens and smart notebooks:

- ❖ Captures everything that you write and everything that is spoken
- ❖ Spend more time listening and write only what's most important
- ❖ Large ergonomic grip



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# Voice transcription

## Smartphone Apps

Otter.ai

Recorder (Pixel only)

## Desktop Apps

Microsoft OneNote

Google Docs



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# Shared Lists

Shared grocery lists or other task lists between you and your caregiver

- AnyList / Google Home / etc
- Share lists with others' Google accounts
- Sync notes from various providers to a master list managed using your Home device

## Delivery or Pickup Services

- Global Pandemic is driving changes in online shopping habits
- Grocery services like Amazon Prime or Walmart+
- On-demand pickup options provide flexibility and a fair amount of outdoor experience for those with limited mobility
- Easy ordering from an app



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# Looking Ahead



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# Looking ahead

- Continuous improvements in AI and thus voice assistants
- Personal robots
  - Aido
  - Stretch by Hello Robot ([launch video](#))



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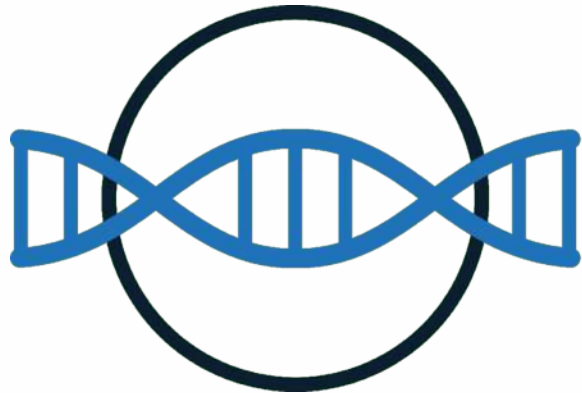
**“Assistive Technologies for people living with  
GNEM”**

**Key Takeaways:**

- ❖ Significant advancements in assistive technology
- ❖ Smart Devices allow for more productivity around the home and workplace
- ❖ Better AI and Personal Robots may one day move us further into an independent lifestyle



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