Hospital Dr. Humberto Alvarado
Vasquez, Masaya

James Tian
Justin Palpant

Meet the Staff

Maintenance department group photo and William, director of the laboratories
Let’s begin with a familiar easy fix...

Just kidding, we completely failed to fix these Blood Pressure Cuffs

• Simple fixes!
  • Leaks
  • Gauges stuck
  • Gauges need calibration
Water Baths

Electrosurgery

• Patient grounding plates are not treated well
• Broken or worn connections need soldering
• Custom plug – can’t be removed or replaced
Electrosurgery - Testing

• Cleaning on the first machine
• Power supply problem – at last!
• Found replacement power cable; battery would not connect
• NiCd battery should be rechargeable, but lack of connection
• Light turns on! Battery begins to trickle charge

Defibrillator
The Dutch Autoclave

• Problem #1 – No one speaks Dutch. Except...
• Problem #2 – software issue, error message
• Problem #3 – tech manuals are unavailable, resale online for $50+
• Problem #4 – manufacturer not interested in responding to our inquiries
• Solution?

Sterilizations
EKG

- Intermittent function – signal problem?
- Cleaned electrodes – no improvement
- Patient cable wire – 15-pin connector and shielding
- Lots of soldering, limited results
We’re alive!

Suction Machines Pt. 1
Suction Machines Pt. 2

Suction Machines Pt. 3...
And a brief interruption by our secondary projects!

Following the map that leads to you...
Most Magnificently Musical Masaya

Doppler Monitor
Mini Doppler Monitor

This is Engineering!!!
This is ALSO Engineering...

Agitator/Incubator  Nebulizer
Closing Remarks

• Relationships made our job easier
• The hospital was extremely well run
• Had lots of fun with the staff
• Orlando, our supervisor, knew far more than we did

We are done!