Overview of meeting [2 min]

Overview of work done [10 min]

- Action items from MSDI
- MSDII planning
- Items Built
- Tests Run

Red Items [0 min]

- None

Yellow items [20-40 min]

- Electrical
  -Check Components
- Mechanical
  -Component housing
  -Strap Analysis

Green Items [5-15 min]

- Administration
  - Updated test plan
  - Updated risk list
  - Updated project plan
  - ASME submission
  - IRB form
- Electrical
  - Start to solder
- Mechanical
  - Upper plug
  - Lower plug
  - Upper base
  - Muscle

Problem Tracking

Summary of meeting [10-25 min]

- Action items
- Week 5 shared vision

Action Items

Item #	Description	Responsible	Due Date	Close Date	Comments
CM01	Develop a Working Model with sensitivity analysis	Geni/Jared	Wk2	IP	In MechE labs
CM02	Consider easy plantar flexion release	Tyler	Wk5	IP	Manual support too?
A001	3D printed PCB standoff redesign	Jared/Tyler	Wk2		Lower component housing
A002	Redesign fasteners for 3D printed part	Jared/Tyler	Wk2		Machine screw anchors?
A003	Address expected failure mechanism	Noah/Tyler	Wk5		Muscle abrasion / risk list
A004	Update Imagine vision, add patent #	Geni	Wk2		Add Patent # to poster
A005	Research AutoDesk 123D Sculpt	ME/GG/TL	Wk2		Free download for I-Pad

Long Term Test Plan MSDII

P15001: Active Ankle Foot Orthotic - Updated on February 3, 2015

Test #	Proposal Name	Related System	Question To Answer	rqmnt. #(s)	Engineer	Cost	Start Date	End Date	Phase	Shipping	Complete
1	Ankle-foot force analysis	Raise Foot	Is the force always able to lift foot?	ER2, ER4, ER1	GG,NS	$ -	9-Feb	6-Mar	2	no	no
2	Power analysis	Recharge or Replace Battery	Is the power source appropriate?	ER9, ER10	JG	$ -	30-Mar	24-Apr	4	no	no
3	Ease of application test	Use AFO	How easy is it to dawn the orthotic.	ER13	GG	$ -	9-Mar	26-Mar	3	no	no
4	Survey of orthotic aesthetics	Secure Foot, interface	Determine if design is aesthetically pleasing and easy to use	ER17,ER21	GG	$ -	9-Mar	26-Mar	3	no	no
5	Ingress protection	Wash AFO	Is the orthotic machine washable?	ER7, ER8	AP	$ -	30-Mar	24-Apr	4	no	no
6	CAIR capacity	Supply CAIR, Actuate Muscle	Does the AFO last untethered a whole day?	ER6	NS	$ 9.00	30-Mar	24-Apr	4	no	no
7	Noise test	Relax Foot, Articulate Foot	Will the release of air meet ER noise levels?	ER18, ER20	TL,AP	$ -	30-Mar	24-Apr	4	no	no
8	Corrosion test	Use AFO	Will corrosion be a serious problem?	ER2	TL	$ -	30-Mar	24-Apr	4	no	no
9	Sub-Terrain test	Distance sensing	Will the distance sensor read the right terrain?	ER11, ER12	JG	$ -	9-Mar	26-Mar	3	no	no
10	Recording Gait test	Record Gait	Is the Gait updating as it should	ER11	ME	$ -	9-Feb	6-Mar	2	no	no
11	Wearability Test	Use AFO	How does using the AFO effect the user?	ER3, ER5, ER11, ER13, ER14, ER15, ER16, ER19	AP, Team	$ -	9-Mar	3-Apr	3 and 4	no	no
12	Slow Motion Deflection	Raise Foot	How much deflection is needed from the air muscle to replicate normal gait?	ER4, ER5	NS	$ -	9-Feb	6-Mar	2	no	no
13	Strap Analysis	Raise Foot	What is the performace capability and comfort of the strap?	ER19	NS,GG	$ -	26-Jan	5-Feb	1	no	no
14	Extended Use Test	Use AFO	How long will the muscle last?	ER6	NS	$ -	9-Feb	6-Mar	2	no	no
15	Attachement fatigue	Raise Foot	Will the plastic muscle attachment break?	ER2, ER4, ER5, ER6	TL	$ -	9-Mar	26-Mar	3	no	no
16	Air Leak Test	Secure Foot, Articulate Foot	How much air will the muscle and connections leak?	ER2, ER4, ER5, ER6	TL	$ -	9-Feb	6-Mar	2	no	no

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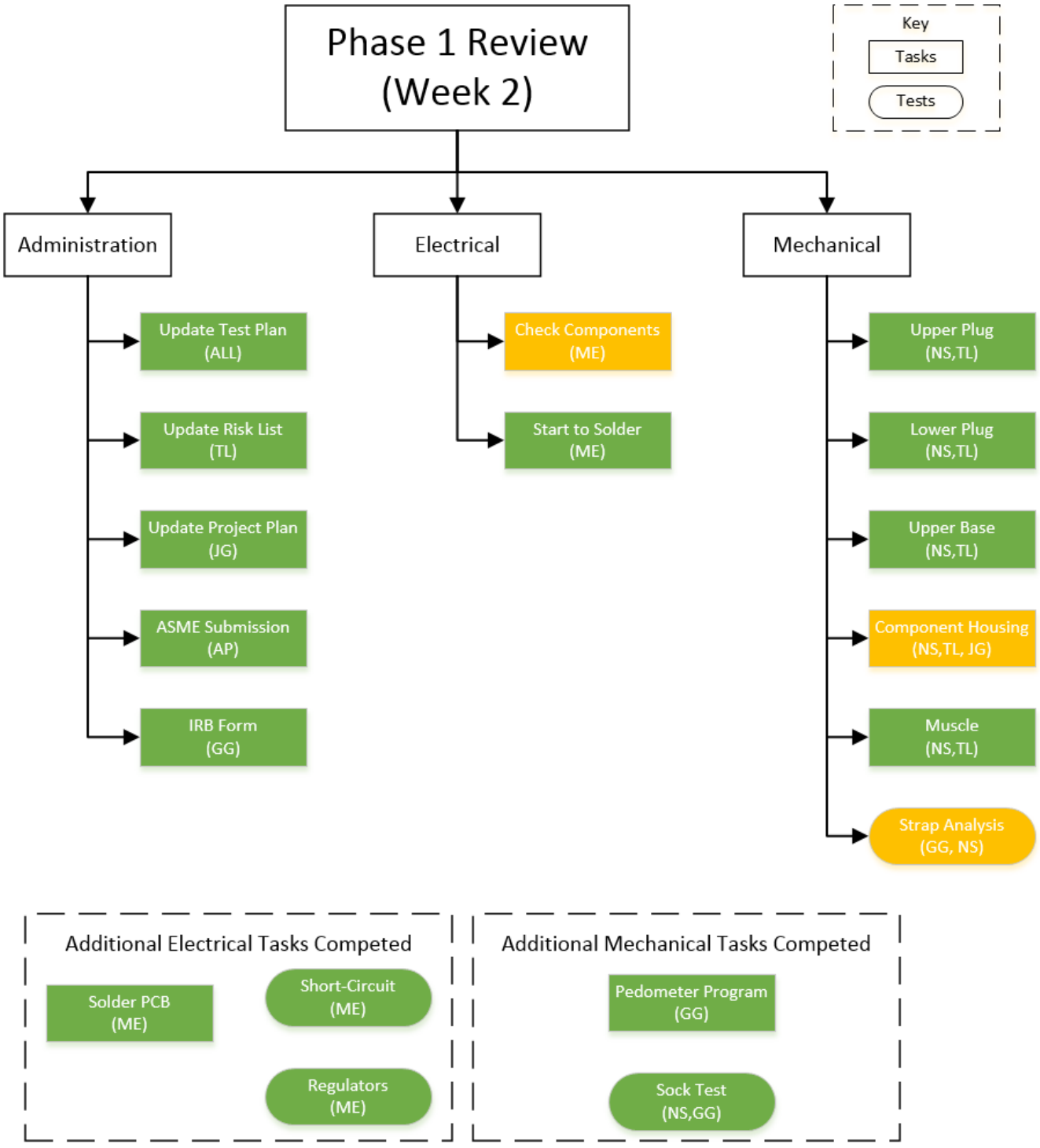

Rating	R1	R2	R3	Y4	Y5	G6	
CRITICAL	Muscle strain will not provide required displacement	The root cause is that the required strain may be more than our optimized tank and muscle can deliver. Our AFO may also be a source of more strain than expected.	Perform additional testing to determine actual strain requirments. Brainstormed ideas inclue using a wider muscle, different sleeving, pulleys.	Our plan is to perform strain testing in MSD II phase I & II to find true strain requirments. We also plan to develop a Working Model kinematic simulation. If necessary we will build a wider muscle as advised by our customer.			Noah
MAJOR	Properly timing the articulation of the muscle.	We are currently using two presure sensors for stair identification, these could be used to identify location in the gait.	Adapting gait monitoring system to response on heelstrike and toe strike and not a precentage of the gait				Megan
	Correct terrain identification across users.	Consistancy is not seen aross user because the sensor is at a different location	This could be corrected during fitting by adjusting the threshold level in the code				Megan
	Comfort of the AFO	Discomfort, near base of big toe bone, is felt by user when force is applied to lower part of AFO	Implement soft material as cusion Change the angle at which strap is attached at	Change the angle at which strap is attached at. Strap is currently sewn at 0 degrees of attachment point. Calculate an appropriate angle and make necessary adjustments			Geni
ORDINARY	Weight of the AFO	Systems have not been optomized for weight saving, especially power.	Optomizing sub systems like power to achieve oue engineering requirements and reduce weight.				Adam
	Placement of Lower Attachment Strap	Strap interferes with adjustment of Velcro strap and makes it more difficult for users to put on and take off	Replace fishing line attachment with a strap Adjust length and orientation of attachment strap				Geni
	Initial Force Loss	When a force is applied to the foot, the initial 1-1.5lbs of force is transmitted to the brace.	Implement more durable attachment strap				Geni
	Full Day's Use	Air tank does not provide enough air to last for a full day's use	Reduce muscle size Purchase larger air tank	Selecting a larger tank that is composed of carbon fiber	Perform calculations that would verify that the larger tank would last for an entire day's use	confirm by physical test	Noah
	Power Source	Source runs low too early or not enough current is drawn	Drain the battery to help analyze its power				Jared

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