

# Student project grows into innovative mask-making effort at Southeastern Plastic Surgery

Marina Brown, Democrat correspondent    Published 2:52 p.m. ET April 13, 2020



Jacob Mayfield, age 10, Buck Lake Elementary School, works on making a mask. (Photo: Special to the Democrat)

Only in the last months has the world known of the fearsome COVID-19 illness, rapidly proliferating across the world, seeming to double and triple its impact daily.

But even as the coronavirus grows in scope, so does something else. And that would be — goodness. People reaching out to help other people.

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the Gifted Program at Buck Lake Elementary School, started a "crop" of caring that  
is crisis in New York City.

Just over a week ago, 10-year-old Jacob Mayfield ‘virtually’ received the assignment: What can you do to help your community during this time?”



Teams from Southeastern Plastic Surgery has been making masks for TMH Cancer Center, TMH Nuclear Medicine, Advanced Urology Institute, Southern Medical Group. (Photo: Southeastern Plastic Surgery)

It was to be a project with a presentation at the end. And like most children with what might be a daunting piece of homework, Jacob began discussing the challenge with his parents, Rebekah and David Mayfield, who, as luck would have it, both work in medical settings.

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Rebekah is the Cosmetics Coordinator at Southeastern Plastic Surgery and David is the Manager of the Nuclear Medicine department at Tallahassee Memorial HealthCare. All day long they see people wearing masks, and they hear about their growing shortage —possibly even here in Tallahassee. They also had seen the dozens of DIY videos online, wondering about those masks’ effectiveness and comfort.

The Mayfield family decided that since Rebekah had a sewing machine which is often put to use, and even Jacob has been taught how to take tucks in his clothes when needed, that with input from the TMH Nuclear Medicine professionals trying out prototypes, they would try to help Jacob complete his assignment.



The team at Southeastern Plastic Surgery turned their staff break room into production room and extending the production process to all MDs and staff refined the prototypes to give maximum facial coverage protection. (Photo: Southeastern Plastic Surgery)

Rebekah Mayfield launched into online research. Beginning with a mask design from Shands Hospital, she knew she wanted a fabric that wouldn’t irritate or become moist after several hours of use. Shands was making novel use of Halyard H600, a two-ply spun polypropylene that manufacturers say, “cannot be penetrated by water, bacteria or particles.”

The Shands pattern, created by an anesthesiologist there, says the fabric is “4% more effective at blocking particulate material than the N95 masks.” Halyard H600 is used to make gowns that are used to wrap around surgical instruments for sterilization.

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Dr. Lawrence Rosenberg, one of the physicians at Southeastern Plastic Surgery, says it is something that is reasonably soft, yet with enough body not to sag, something that was already in use in a surgical setting, and something that could be sterilized with either UV light, autoclave, or even alcohol for sequential use sterilization.



**Kristen Costa, Physician's Assistant, with masks made at Southeastern Plastic Surgery.** (Photo: Southeastern Plastic Surgery)

And while the company currently posts a statement saying that its use for surgical masks is “off-label,” and Rebekah Mayfield and Southeastern Plastic Surgery do not underwrite its effectiveness, they all feel that per CDC recommendations to wear protective face gear, these masks would be a great help.

Best of all, the plastic surgery practice had plenty of the fabric on hand.

Rebekah Mayfield took a couple of sheets home for her son to work with. They tried out “four or five” designs from the University of Florida, but settled on one by Cricut, a crafting company, which when slightly modified by the Mayfields to include a malleable wire bridging the nose, a slight extension around the face and below the chin, the masks seemed particularly comfortable and secure.



**The team making masks with Dr. Ben Kirbo, all from Southeastern Plastic Surgery.** (Photo: Southeastern Plastic Surgery)

David Mayfield took the prototypes into trials at TMH's Nuclear Medicine department, where there was a wholehearted approval — in fact, there were immediately requests for more.

Meanwhile, Lisa Umana, CRNA, one of the nurse anesthetists at the Southeastern Plastic Surgery, took one home to show her husband, Dr. Ernesto Umana, a cardiologist. Mayfield says his whole office now wanted the masks. Then came inquiries from the laboratory at Primary Care Associates, the Cancer Center at Tallahassee Memorial Hospital, the Advanced Urology Institute, TMH's Pediatric ICU—and the Sheriff's Department.

Suddenly, it seemed time to ramp up production from a mother and son working from home to more of a production-line operation.

Dr. Rosenberg says that during this time of mass quarantine, elective plastic surgeries had been cancelled at Southeastern Plastic Surgery. “We are still doing surgery though— cancer procedures, tendon repairs, pressure sores, extremity salvage, reconstructions.” The practice would still pay salaries and provide benefits to their staff who would not be working, but now, the opportunity presented itself to “help the community in a different way,” he says.





**Buck Lake Elementary student Jacob Mayfield, age 10, makes masks with his sister, Alexis, 8. (Photo: Special to the Democrat)**

Rebekah Mayfield brought her sewing machine into work. Then someone else brought in a sewing machine. Mayfield taught five people from clinical staff, billing, and reception personnel to cut and sew according to the pattern. They divided the process into teams, all working with masks on in separate rooms where only two workers perform a step a table's distance apart. Someone estimated they're making 10 masks an hour.

Mayfield says at the end of the week they will have sewn their "400th mask."

But the little "seed" planted by Mrs. Perez at Buck Lake Elementary School, "cultivated" by Jacob Mayfield and his mother, and "propagated" by medical facilities around Tallahassee, may even now be being carried to fertile fields far away.

"The daughter of a local CRNA is a clothes designer in New York City. She has one of the masks... and is beginning to make them too," says Rebekah Mayfield.

Which is perhaps just the outcome the teacher had in mind all along — "figure out something to help you community." Community — a place that has expanded it seems, to include the whole world.

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