

# From cannons to catheters



**In a former life, Tom Curtis was a machinist who made molds for everything from cannons in New York to catheters and angioplasty medical devices in California. Right, about the size of a pencil lead, this mold that Tom Curtis machined makes a flexible tube that can be inserted in arteries to cool the blood of stroke victims.**

PHOTOS BY PHIL AUDIBERT

Actually, Tom Curtis really does do everything, as his business title would suggest, and he has spent a lot of time in a machine shop. Born and raised outside of Albany, NY, Curtis joined the Marine Corps and, after his hitch was up, took a five-year apprenticeship in a Department of the Army machinist's facility in Watervliet, NY. Here he made cannons! That's right, cannons. "Yeah. You learn how to machine by making cannons," he deadpans.

At the time, he was dating a girl who lived in Richmond. With a job offer from Reynolds Metals, it seemed only logical he would move to Virginia. But then San Diego lured him away. It was 1980.

He went out there on a lark with some friends, fell in love with the whole West Coast thing, and to make a long story short, didn't come back to Virginia until six years ago. "I had to get out of the New York winters," he shudders. Besides, he adds with that dreamy faraway look, "the women out there; they're all movie stars, just beautiful." He was 26 at the time.

## The Renaissance Man

Work was plentiful in San Diego for a machinist, first with the aerospace and then the medical industries. Tom worked for the giant Medtronic, where he did precise tool and dye work making angioplasty devices, including catheters. "So I made all the tooling, all the molds for the balloons and the extrusion dies for making the tubing and fixtures for assembling things."

When he moved on to a small start-up, he made the mold for an incredible device that could be inserted by first responders into the arteries of stroke victims that would cool their blood down.

"Basically it stabilizes the patient so they can get him to the hospital and work on him, because it's just a matter of minutes; it's critical." Tom Curtis even holds a few patents on medical devices.

By this time he had met and married Ruth Ritchart, "a world-renowned porcelain artist." And one day, she up and announced she wanted out of this dusty porcelain business so she could make soap instead. She started off selling at church bazaars and flea markets "and she sold everything she made." After they got rid of a chemist, who "did absolutely nothing," Tom decided he'd lend a hand.

"So I started working. In those days, I didn't know how to turn on a computer, and of course we had to make labels...It used to take me an hour to print a page of labels in color. So I was up half the night, plus working a regular job, 45-50 hours a week and coming home and putting another 30 or 40 into the soap business." Needless to say, he quit the medical job to make soap fulltime. There was more money in it!

Besides, they'd heard a concession was opening

up in Old Town San Diego State Historic Park. They put together a proposal and were awarded the 10-year contract. Keeping to the rule of 1860-era dress and furnishings, they established the U.S. House Apothecary and Soap Shop. "Ten million people per year used to walk past my front door."

At one point they had as many as 14 employees and offered some 60 products from soaps to lotions to oils to buckwheat hull pillows for sale. They were shipping all over the world to repeat customers. "We were making a lot of money," says Tom, but he quickly adds, "we were working like maniacs...The bad thing about that concession was you had to be open 363 days a year." And the hours! 9-9 summertime, which in San Diego, almost never ends; 10-8 during the brief winter. Finally, Ruth turned to him and said "I just can't do this anymore." Tom had to agree. "It was brutal."

They sold the business and went their separate ways. "You know how it is when you spend 23 hours a day with somebody; you kind of get on each other's nerves." He rolls his eyes. And that's when Tom came to Virginia and decided to start up his own soap making operation here. "I'm just by myself now," he says, adding "I love Virginia; always did. People here are really nice."

He still has the machine shop in the other half of the converted garage that is his soap factory. "I do a little consulting work from time to time." He makes most of his equipment himself, from the cabinetry to the molds to the cutting block. And his computer skills have developed exponentially since those early days of staying up all night printing labels. Currently, he is a mentor for the UVA Kids Building Robots program.

"I do everything," he says simply, not bragging, mind you, just stating a fact. So, yes, Tom Curtis is not only Mr. Clean; he's the Renaissance Man.



# Mr. Clean

So, do you know why soap makes you clean? Tom Curtis knows; he's been making the stuff for 20 years.

"Your skin is an acidic Ph," he explains. "And that's why soap cleans you because it's alkaline and it neutralizes the acid on your skin and breaks up the dirt and that's why you get clean."

Cool. Up until now, I had no idea how soap actually did the job of cleansing. It's all in the yin yang of acid and alkaline. Just like electricity, it works on the principle of the attraction of opposites: plus/minus, day/night, up/down, wet/dry, and yes, dirty/clean. There's something deeply philosophical here; I'm not quite sure what.



Above, the blue/green swirl in Tom Curtis' signature lavender soap is made from green French clay. At left, with the formula book open to the right page, a bar of lavender soap sits on a cutting block as racks and racks of finished soap cure in the background. Curtis has made up to 22 different kinds of soap; even a seasonal poison ivy soap, which he makes from jewel weed, which is a natural antidote for the itch and rash.

PHOTOS BY PHIL AUDIBERT

Now, here's another question. Do you know how soap is made? 'Sure,' you respond. 'The pioneers, when they did take their one bath per season, would render animal fat in cauldrons over an open fire, mix in some ashes or something, add some scent; anything to counteract this foul smelling stuff, and then it would harden into crumbly blocks that did a fair job of making them, well, uh, cleaner. Nowadays it's the same process essentially, except it happens in huge complexes of pipes and smokestacks somewhere in New Jersey.'

Let's move instead to a modest converted garage at the foot of Montebello Mountain, on the Barbourville side. As soon as Tom Curtis opens the door, the mental vision of smoldering cauldrons, belching smokestacks, rendered animal fat and sprawling industrial parks evaporates. Instead a patchwork of delightful scents greet your nose transporting you from a valley of roses in Bulgaria to an organic lavender patch in Oregon. No animal fat here; not a drop of it. It's all olive and coconut and palm oil, giving rise to more pleasant visions of sunny Mediterranean hillsides and exotic Pacific island beaches.

Back to reality. This tidy and spotless laboratory is where this taciturn scientist makes as many as 22 different kinds of soap. He also makes lotions, and lip balm, and massage oil, and muscle relief salve and bath salts and packages essential oils, and heaven knows what else.

But his main thing is soap. 'I've been doing this a long time,' he says matter-of-factly. 'Each bar is unique. There's something unique about every bar I make, whether it's essential oil blend or whether it's got evening primrose oil or organic shea butter or clays.' He ticks off just a few of the various additives he uses.

'Everything I've got is a vegetable-based product; vegetable or flower.' And, he continues, 'Everything I've got is organic if possible. If not, it's wild-crafted. I don't have anything that has pesticides sprayed on it.' Plus, no animal prod-



PHOTO BY PHIL AUDIBERT

"God, I love that smell," says Tom Curtis as he sniffs an essential oil. The oils come from as far away as Bulgaria.

ucts, such as Emu oil, for example. "Unfortunately, to get the emu oil, the emu has to die," says Tom with a hint of sadness. "A lot of people will use emu oil in their lotions and face creams; I won't use it."

He consults a massive tome of formulas much like the one in Harry Potter's chemistry class. He peers over his glasses, somewhat like Dumbledore or Professor Snape, and says making soap is "a lot of trial and error, tweaking the formula... You can buy a book and make soap this afternoon but it won't be as good as my soap."

To make his point, we figuratively follow a bar of his signature soap from its raw ingredients to finished product. "When I make soap it's an all-day job," he says as he explains the process. The first thing you have to get right is the measuring of the ingredients. "Everything I do is by weight. I don't use any volume measure-

ments at all. That way, I get a really consistent batch of soap." He points to an array of scales, one of which is accurate to the 1/100th of a gram.

He reaches into a cabinet and produces a plastic bin. "Don't stick your fingers in there; it will burn you," he warns. This is lye... sodium hydroxide. This stuff is so alkaline, "it's like battery acid." He gets it from a chemical supply company only after he has filled out a host of forms for the federal government.

You might say this is the active ingredient in soap. "In the old days, they used to get lye by saving the ashes from their fireplace, running water through it, and what you get then is a lye solution." In this case, when you add water to this caustic soda, it practically boils, reaching a temperature of 180 degrees.

While the lye solution is cooling, Tom will weigh out olive, coconut or palm oil from five-gallon containers and melt, not burn, them in stainless steel pots on small burners. After the lye solution cools, it is poured into the stainless steel pots with the melted oil and set

under a modified garden-variety Kitchen Aid mixer. He has several; so he can stagger his batches. Otherwise they would all come ready at the same time.

"Once the lye combines with the oils it's a chemical reaction; it's a whole new animal then. And that's what soap is. It's a saponified oil or fat. The whole trick is you want to get a fully saponified batch; that's when you get a nice batch of soap. If your quantities are off, it won't be fully saponified and there will be hot spots from the lye and some places of the bar will be mushy, really soft. That means your batch isn't saponified. You weighed out something wrong usually. It's gotta be perfect or it doesn't happen right."

He sets the mixers on automatic for 20 minutes, then finishes off each batch with a modified hand mixer. "At this stage I add vitamin E and vitamin C. I add that, and then the next thing that goes in is, if I'm using it, a floral water like a hydrosol." It is also at this point that he will mix in the French green clay that creates the distinctive blue green swirl in his lavender soap.

And then, the piece de resistance: "The last thing that goes in when you're mixing is essential oils because they're volatile, and you want the mixture to slightly cool while you're mixing it."

He looks for the mixture to begin to "trace," or support its own weight. "After you make a few thousand batches you get to know how close it is to tracing and that's when you add the essential oils. And you mix them in but you have to get them fully incorporated or otherwise you get hot spots of essential oil. That's no good because essential oils will go right through your skin into your blood stream."

He uncorks a one-ounce bottle of essential rose oil, mentioning that it comes from the Valley of the Roses in Bulgaria. "It takes one ton of rose petals to make ten and a half ounces of essential oil." He opens a cabinet revealing rows and rows of tiny bottles. He offers one to sniff. "That's pure lemon. It's not lemon juice. It's lemon essential oil. It's taken from the plant." He offers another. "This is patchouli." You probably remember this from the 60s. I sell a ton of this to a lot of old hippies." He laughs, uncorks yet another. A f a r a w a y dreamy look drifts across his face.



PHOTOS BY PHIL AUDIBERT

The Renaissance Man uses his own machine shop to modify countertop and handheld kitchen mixers to make his soaps.

Wake up time! At this point the mixture has become "mushy." It is ready to be poured into molds, where it will sit for two and a half days before hardening into a solid column of soap. Using a Costco knife, he then cuts them into eight-ounce bars, and again into four-ounce bars. "In this economy, I don't think people want to pay \$12 or \$14 for a bar of soap. I mean, it's a nice big honking bar of soap but people just don't have that kind of money right now. So I

cut them in half, and I sell four-ounce bars." They retail for \$6 apiece.

Tom Curtis can get 48 four-ounce bars out of one batch. "I can make six batches in a day." But he usually makes less. After that, soap has to cure for up to two weeks before he packages and labels each individual bar. The names of his various soaps evoke all manner of images and s c e n t s : Chamomile and Cocoa Butter, Avocado and C a l e n d u l a , Spearmint and Aloe, Tangerine B l o s s o m , E v e n i n g Primrose. He even makes a seasonal poison ivy soap from jewel weed.

On this particular day, instead of making soap, Tom has opted to cook up a hand lotion that he used to make when he lived in San Diego. It caresses the hands. "That is a difficult formula for that lotion," he cautions as he thumbs through his formula book. "Temperature is critical. If you get cocky or you rush anything, it's just going to be goo."

What will happen if this cottage industry in a converted garage takes off? "Well, I'll have to hire some people," he shrugs. But somehow, you get the impression that he's perfectly happy at this level of production. "I do everything," he shrugs contentedly. "The really neat thing about it is that everything always smells so good where I am now. It's a lot better than what it smells like in a machine shop all day."

## Renaissance Man Hand Made Natural Soaps

When Bike Virginia came to town, Tom Curtis set up a booth to sell those sweaty cyclists some sweet smelling soap and essential oils.

PHOTO BY SUSIE AUDIBERT



Renaissance Man Hand Made Natural Soaps are available locally at the Gordonsville Medical Pharmacy on the circle, at Gordonsville Gift Gallery and Gypsy Willow in Orange. In Charlottesville his products can be found at Foods of All Nations, and Glow on the downtown mall. Tom Curtis even makes a private label for Yoder's in Madison County. And he takes his business on the road, setting up at street fairs and farmer's markets. Plus, he sells wholesale out west, puts out a catalog and takes internet orders from: [www.therenman.com](http://www.therenman.com).