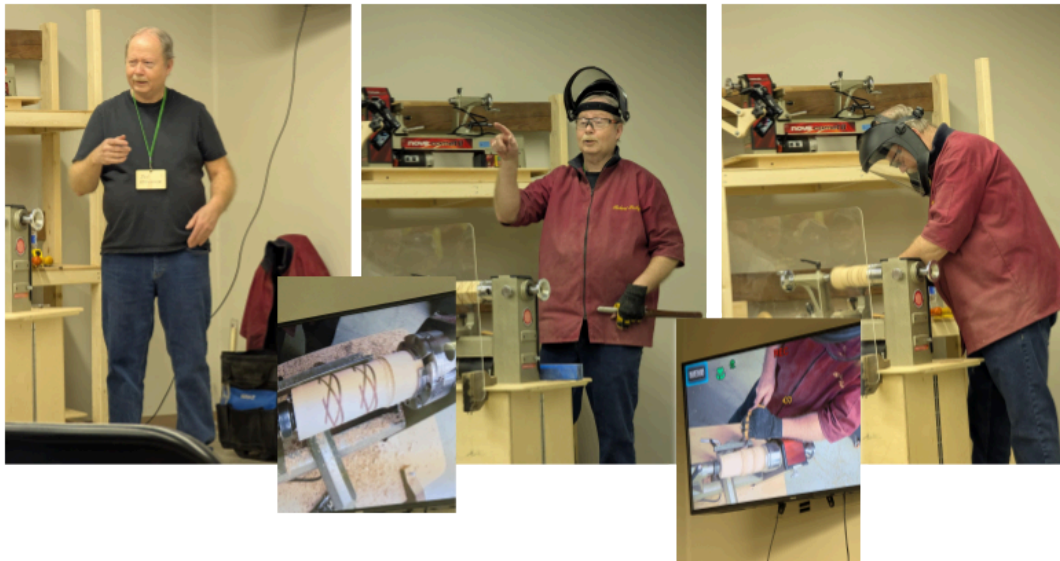


Central Alberta Woodturners Guild Newsletter

April 2025

A CHAPTER OF THE AMERICAN ASSOCIATION OF WOODTURNERS



Thanks to Joe Stenhouse for his demo on egg turning. Lots of great ideas on methods to turn the egg shape as well as his method for celtic knot work.



Our April demo will be Merv Krivoshein. Merv will be showing us his method for turning an inside/out ornament with an embedded egg shape.

Looking forward to seeing this!

Members in the News!

We just want to give a shout out to 2 of the club's woodturners, Merv Krivoshein and Glenn Collins. Their recent collaboration piece, was shown on page 65 in issue 403 of Woodturning Magazine. The 3 wing lidded vase looks amazing!

Guild Library

We still have many resources for the members, including magazines, books, and DVDs. They are housed in the filing cabinet at Safety City. If you are interested in looking at and borrowing these items just ask one of the board members at the meeting.

April Sawdust Session

We are planning on another sawdust session soon. A suggested area of focus is an end grain lidded box, but this is just one idea. All sawdust sessions can look at whatever you are wondering about or need help with. There are many gifted turners and artisans in the guild who can help out.

We are also thinking of having a swap meet at the next sawdust session. If you have items in your shop that you no longer use, or have never used, bring it along and see if you can sell or swap with someone else!

Guild Website and Facebook Group

Barry Green has been putting in a lot of time on our guild website. It is coming along really well. Check it out when you get a chance.

www.centralalbertawoodturners.com

As well Barry is tending to our Facebook group and maintaining it as well. It's great to have these areas brought up to date and given some maintenance.

Thanks Barry.

Year End Picnic

It is that time of year to look forward to the year end picnic. We are looking at this for June 19th at the Red Barn near Lacombe.

www.centralalbertawoodturners.com

Members turnings

We would love to showcase your work in the newsletter and on the guild's website.

If you would be happy to have people view your work, please send a picture along with a short description of the piece(s) to centralalbertawoodturners@gmail.com

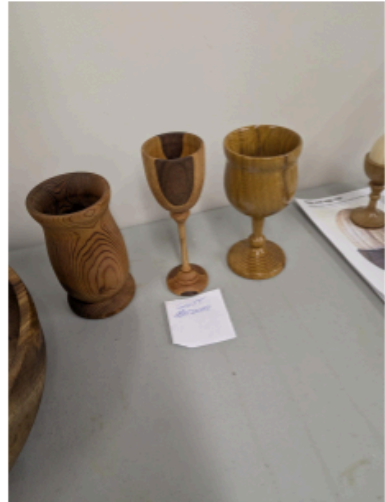
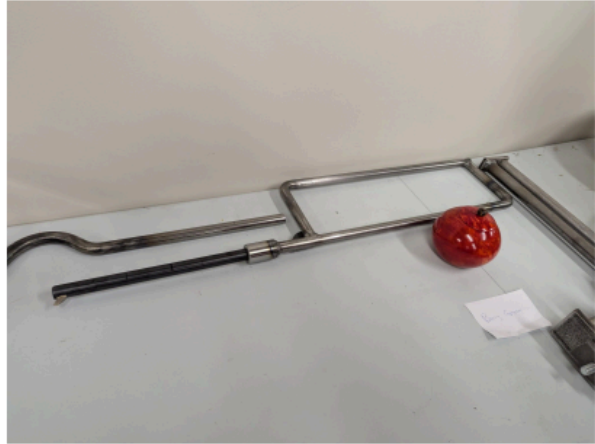
In the description you can include anything such as the inspiration for the piece, the wood used, and the finish. A photo taken with your phone would be great!

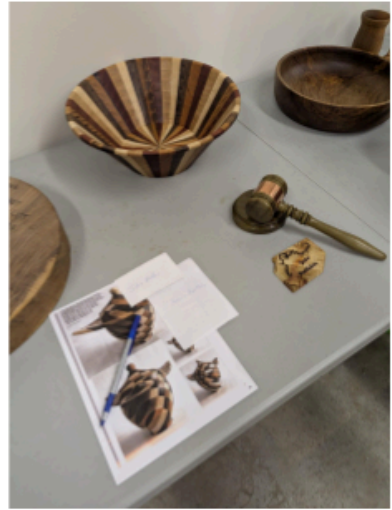
Show and Share at the March meeting

It was a great showing of members' work in March. One of the most extensive tables yet. Thanks for bringing out your work!









WOOD DUST

Are we gambling with our health?

PAT MATRANGA

Where there is smoke, there is fire. Where there is woodturning, there is dust. Since I fell in love with turning, I've often wondered if I'm breathing too much dust. There isn't much information available on the subject and I had lots of questions. So when I found out the Central Ohio Woodturners were having a forum on the hazards of wood dust last March, I jumped at the chance to go. The panel was composed of four physicians, who are woodturners and members of COW.

Dr. Ed Miller (retired pathologist) talked about dust's effects on the skin, Dr. Jon Calland (anesthesiologist) discussed the dangers to the respiratory system, Dr. Bob McVicker (a vascular surgeon) dealt with effects on the heart, and Dr. Chuck Caranna (obstetrician), filled in the blanks and provided the much needed humor.

The forum was moderated by Ron Damon who owns Wood Werks Supply Inc. in Columbus. As a dealer in equipment for woodworkers, he was very knowledgeable about the array of dust collection units and other available equipment to keep our shops and lungs as clean as possible.

The question of how dangerous wood dust can be is too complex to be covered in a single article, and no article can substitute for professional help. You should always consult a doctor if you're having health problems that might be related to dust or any other shop situation.

But here are some of the things I learned about how wood dust affects the skin, lungs, and heart, which might help you identify potential hazards in your shop and seek solutions. In a future article I will discuss various dust collection systems and breathing devices.

All four doctors had researched available medical literature before the

COW program and all said it was difficult to find information on the effects of wood dust on the body. Western red cedar was the most frequently cited species in their research — it has been found to be not only allergy producing but a carcinogen, or cancer-causing agent, as well. Other wood dusts have not been identified as carcinogens at this time. I sensed the group of doctors found the lack of hard facts in the research a bit frustrating, but the cases they described from their experiences as medical professionals and as woodturners certainly convinced me that I'd be wise to be cautious about dust now, rather than waiting for more research.

Overloading body's filters

Take what I learned regarding the respiratory system. Dr. Jon Calland said "Our bodies already have a fairly good filtration system, but occupational hazards and things like smoking can overload the system. Our bodies were designed to breathe through the nose. Breathing through the nose provides much more protection than breathing through your mouth. The nose can filter any size particle, if it is not overloaded. If you get so much sawdust in your nose that it plugs up, you are hurting yourself. You really need to address dust collection in your shop. Breathing through the mouth is only intended for emergency situations (like running away from danger)." And wear a dust mask, Dr. Miller emphasized.

Dr. Calland emphasized that it is not normal to breathe through your mouth. "If you breathe through your mouth, it bypasses the filtering system I know it is hard for many woodturners to keep their mouths shut while they are turning, but I won't mention any names. The smaller the particle the more danger-

ous it is. There aren't any studies that compared risk to size, but evidence shows that the finer particles can bypass both your body's and your shop's mechanical dust filters," Dr. Calland said.

Of particular concern are particles less than 5 microns which is 5,000-ths of an millimeter. It is thought that they can bypass the cilia, the tiny hairs on the cells lining the air passages, and get farther down in the lung. "They can clog up the passages and cause localized inflammation and scarring," Dr. McVicker said. The cilia, along with mucous, act like a trap for airborne particles. Their wave like motion moves debris up and out of the lungs. The smaller size particles can also hang in the air for hours. Even after they settle on the floor you can walk by them and stir them up into the air again.

Spalted woods dangerous

Spalted woods are particularly dangerous because they contain fungi which create spores. "The spores can lead to pneumonias, lung abscesses, allergic situations and other problems. If you are already pulmonary compromised (for example, have emphysema) you should be selective in the woods you turn and have a complete dust collection system in your shop," Dr. Calland said.

Dr. McVicker stressed the much greater cancer danger for turners who are also smokers, both in terms of naso-pharyngeal cancers (which are cancers located anywhere from the nose to the top of the windpipe) and lung cancers (which are below the top of the windpipe). "Smokers are in particular danger because the natural cleansing process of their lungs is severely impaired or not working at all. The cilia sweep the dust out of the lungs and the cilia are non-functional

“Our bodies already have a fairly good filtration system, but occupational hazards and things like smoking can overload the system. Our bodies were designed to breathe through the nose. Breathing through the nose provides much more protection than breathing through your mouth. The nose can filter any size particle, if it is not overloaded. If you get so much sawdust in your nose that it plugs up, you are hurting yourself.” — Dr. Jon Calland

in smokers. Smokers complain that they are coughing all the time when they quit. That is

because the lungs are beginning to function properly again. They are clearing out debris. They smoke a cigarette and the coughing stops. That is because that one cigarette instantly paralyzed the cilia again. The cilia begin functioning in two to three months after you quit smoking. It's never too late to stop smoking.”

Damaging the heart

Dr. McVicker discussed ways we could damage our heart. Although these would be rare occurrences, they nonetheless do happen. He certainly got the attention of the group and increased our awareness of potential hazards.

One category is a blunt trauma, for example, if a bowl or a chuck key that you forgot to remove, was thrown off the lathe and hits you in the chest. With enough speed these thrown objects can cause a cardiac contusion (a bruise), which can set up an irregular heartbeat that can be bothersome or deadly. Also, if the thrown object hits the body hard enough at the right time in the heart's mechanical cycle, it can rupture a valve in your heart. This can cause acute heart failure or long-term chronic heart problems.

Also possible, but unlikely, with lathes is a penetrating trauma. This is more of a risk with the table saw. Dr. McVicker said, “Kickback can produce a major puncture of a ventricle. I strongly recommend having a guard on your table saw no matter how many years you've used saws and even if you stand to the side. The only treatment is heart surgery.” In addition, if the thrown piece hits at a certain time in your cardiac electrical cycle, it too can cause irregular heartbeats.

If that isn't enough for you, there

are also chemicals in the wood that can be cardiotoxic (poisonous to the heart). “Treated woods have heavy metals like arsenic, and the exotics have endogenous chemicals (natural toxins) that can be cardiotoxic.” Cardiotoxic substances can harm your body and consequently put more strain on your heart. More directly, they can just plain compromise the efficiency of the heart. Skin, even on calloused hands, can also absorb these chemicals under certain conditions.

Pacemakers

“The newer pacemakers generally are shielded against electromagnetic fields. Electromagnetic fields generated from motors or microwaves are normally not dangerous if you have the newer pacemakers,” said Dr. McVicker. If you aren't sure if your pacemaker is shielded, you should check with your doctor. And he added a caution about microwave ovens. “If you are using the microwave to dry your wood, whether you have a pacemaker or not, all of us should stand at least three feet away.”

Skin Reactions

Woodturning can affect your skin in many different ways. The danger is not only through the dust exposure, but from exposure to the sap or bark of freshly cut wood.

One category is the irritant reactions. These tend to be immediate and only affect the part of the body that they contact. A common one is poison ivy. Symptoms include redness, rashes and itching. Some of the most irritant woods are chechen, afrormosia, beech, black locust, boxwood, red cedar, cocobolo, greenheart, iroko, mansonia, olive, rosewoods, yew, silky oak, Australian pine, and Brazil-

ian pepper.

Apparently no one gets used to this exposure. The body gets sensitized to the irritant,

and the reaction is even stronger and more dangerous. Some people seem to be born sensitized to certain substances and have very serious reactions from the start.

Dr. Miller described another type of reaction: allergic contact dermatitis. “There are certain chemicals in wood that can effect the immune system. They actually alter the body's defense mechanisms. They are called sensitizers. Often times there is not a reaction with the initial exposure. The sensitizer is basically something that overcomes the body's normal immune mechanisms. Once those defense mechanisms are overwhelmed sensitization occurs and subsequent contact with the same sensitizers will elicit a prompt reaction.”

The respiratory system may be affected as well. Dr. McVicker said that “bronchial spasms cause the small breathing passages to constrict, making it difficult to breath. If you have a reaction to a specific wood, chances are you always will.” In cases like this, you should seek medical help immediately. Dr. Miller added, “There are plenty of beautiful woods with similar properties you can use, so you really should avoid using woods that you react to.”

The symptoms of allergic contact dermatitis include: rash, redness, swelling, burning, itching, blisters, skin ulcers and with repeated exposure marked thickening or scaling of the skin.

The most common woods that cause allergic dermatitis are: cypress, balsam fir, birch, boxwood, western red cedar, goncalo alves, redwood, teak, sassafras, silky oak, cocobolo, and rosewood.

I found it interesting that certain conditions increase your chances of

PROTECT YOURSELF

1. **Reduce dust exposure by having a well ventilated work area.**
2. **Use respirator helmets, dust collectors, and air filters.**
3. **Don't wear the same dusty clothes the next day; start fresh with clean clothes.**
4. **Wear an apron with a high collar.**
5. **Keep a clean work area.**
6. **Wash hands and forearms before eating, smoking or going to the bathroom.**
7. **Avoid contact with woods to which you have been sensitized. This includes tool handles. If you are sensitized to cocobolo, do not have tools with cocobolo handles.**

becoming sensitized — frequent contact with strong detergents, solvents, abrasive hand cleaners, or damaging your skin with any abrasive. Also damp or sweaty skin increases the possibility of sensitization. Wash and dry the dust off your arms, hands, and face often to reduce the risk.

Other suggested precautions are listed in the box at right.

Dr. Miller stated that barrier creams are of limited effectiveness and he wouldn't trust them much. He added, "Some people aren't sensitive at all, but it happens enough to some people that we should all be aware of the precautions because wood dust is an irritant and can cause diverse cutaneous reactions."

Despite risks, a great hobby

After Ed talked about skin rashes, and Jon talked about cancer of the nose, and Bob talked about wood hitting you in the chest and stopping your heart, Dr. Chuck Caranna, obstetrician, talked about what a great hobby turning is! He stressed that all of the described problems are exceedingly rare, but he peaked our interest when he said, "If your shop is attached to the house, it is possible that your hobby could contribute to your child's asthma. If your child is having recurring ear infections or bronchitis there could be a connection." He recommended moving your shop to an out building.

The last part of the meeting was presented by Ron Damon. He referred to a thick book titled "Industrial Ventilation," which was the 21st edition, and one of four volumes. "This is not a trivial issue, it is just that we in the hobby have been slow in catching up with it. That is why we wanted to have this kind of session tonight," he said.

He discussed the different equipment and accessories that can be used to control the amount of dust in our shops. For now I am only going to

cover the ambient air cleaner information. Ambient air cleaners hang from the ceiling and are designed to filter out the tiniest airborne dust particles.

"The worst place to put an ambient air cleaner is in the middle of the room because what you want to do is get a swirl of air circulating in the room. It is best to position it on an outside wall." He added, "You can even use two smaller filters on opposing outside walls (positioned so that they are moving air in the same direction) to really get that swirl moving and get the dirty air to the filter more effectively." To figure out what size ambient air cleaner, you need to take the width times the length times the height of your shop to get the cubic feet. Then divide that by the CFM (cubic ft. per min.) of the filter unit.

Let's say your shop is 3,600 cubic feet. Then you divide it by the CFM rating of the ambient air cleaner. If the CFM rating is 600. $3600 \div 600 = 6$. So you would be turning the air over in your shop at the rate of once every six minutes.

"Most people suggest that you want that number to be between 5 and 10 minutes. If the number is under 5 minutes, it doesn't hurt anything but it's really overdoing it. If it

is over 10 minutes, much of the dust can fall to the ground before it makes it to the filter," he said.

The most critical dust removal area is the air right in front of you. Your ambient air filters will be getting many of the particles, but remember they have been airborne for some time. So personal air protection was stressed, but that is another article!

The ambient air cleaner is an important component in your dust collection system as these units collect some of the finest particles. Dr. McVicker's air cleaner is wired into his shop lights. When he turns them on the ambient air cleaner automatically starts. What does that tell you?

I know that most of you reading this article have found a real joy in turning. It would be nice to know just how much protection from dust and the chemicals in wood we really need. Unfortunately, no one can answer that question yet. The good news is as Dr. Caranna said, "There is such a low incidence of naso-pharyngeal cancers that it puts you at a low risk The bad news is that they are difficult to treat and the success rate of treatment is quite low."

Everyone agreed that it is best to utilize all the protective mechanisms you can to minimize the risk because wood dust obviously can't be good for you. In so many instances we discover how harmful things can be in retrospect. My father is on oxygen 24 hours a day from his 30 years as a fire fighter. In his day firemen didn't wear protective gear and they breathed smoke, asbestos, and other chemicals present in fires. He says, "You were considered a sissy if you wore a mask."

Personally, I rather enjoy the reaction of the UPS driver when I come to the door wearing my air helmet. Happy, healthy, turning everyone.

Pat Matranga is a turner, teacher and writer in Nashville, TN