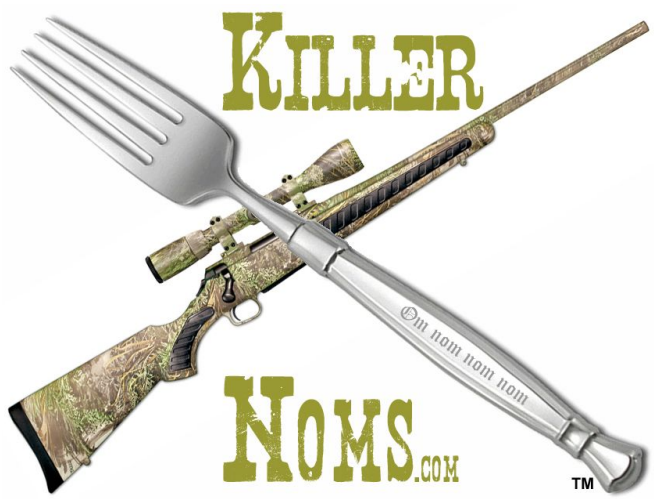
Venison Maillard Hamburger



By Steve Jones

There is a problem with venison hamburgers. It is not really safe to serve them rare, but if cooked to a safe temperature they are quite dry.

Let's fix that.

This is a method, not a recipe. Its advantages are improving flavor, and reducing the risk of foodborne illness caused by harmful bacteria in burger served rare.

If we had lawyers, they'd say this: *If starting with wholesome whole cuts of venison, this technique should significantly reduce the risk of bacterial illness resulting from consuming such meats cooked and served below USDA recommended temperature.*

"Reduce" is the key word. Do not presume the risk is eliminated. Do not use this technique if serving the very young, the very old, pregnant women, anyone with a compromised immune system, or anyone in poor health.

While not common, venison can pose a risk of toxoplasmosis — especially in habitat deer share with a significant feline population — usually feral or "outside" domestic cats. Freezing the meat to below 0°F for several days before cooking greatly reduces the risk. Or cooking it to 145°F — which would defeat the purpose of this technique.

This method works for vegetarian ungulates like deer, cattle, sheep, antelope, etc., ***but do not try it with other meats.*** *Meat from omnivores and carnivores like bear, mountain lions and wild hogs may be contaminated with trichinae, which cause trichinosis. Trichinae are distributed through the meat, not concentrated on the surface. Such meats should always be cooked all the way through to at least 160°F. Really.*

The interior of a solid piece of meat is normally free of harmful bacteria. But during processing, bacteria inevitably spreads to some of the meat surface. This is true even with animals killed instantly by a captive-bolt gun to the brain then processed immediately by professionals in clean temperature-controlled facilities under government inspection.

When the animal is killed by bullet or broadhead, field dressed on the ground, dragged from the woods, hauled in a trailer or trunk or pickup bed, then later cut up and packaged either by amateurs

in their kitchen or garage, or by professionals not under inspection, the risks increase significantly.

Some of those bacteria may be harmful (e.g. e-coli, salmonella, listeria). Good carcass management and processing techniques take preparation and a little extra effort, but are very effective at reducing the threat.

Typical cooking temperatures kill surface bacteria. That's why many restaurants are willing to serve you a rare steak. Bacteria are confined to the surface of the meat unless allowed to run rampant by failing to keep the meat properly chilled. Surface bacteria is killed by nearly any cooking technique.

But grinding spreads surface bacteria all through the meat, vastly multiplying the effective surface area. Bacteria LOVE this. That is why some restaurants are happy to cook you a rare ribeye may balk at serving a rare burger.

But if we kill that surface bacteria **before** grinding, we open the door to enjoying a rare burger!

If you prepare and serve the meat the same day, with this technique a rare burger should be as safe as a rare steak. As a bonus you add great flavor! It does take more time and hassle than your normal burger. Trust me, it is worth it.

Here's the trick:

- Wholesome, large roasts with all surfaces exposed (no rolling or folding).
- Brown all surfaces using a very hot source.
- Immediately chill again.
- Grind the well chilled meat.
- Serve or freeze same day, thawing only for immediate use if serving rare.

The delicious brown crust on any properly prepared steak or burger is caused by the "Maillard effect". It was discovered about the same time man discovered fire, but first scientifically described in 1912 by Louis-Camille Maillard — a French physician and chemist. Multiple pronunciations are considered correct. I favor my-'yard.

The Maillard effect reliably does two things — sterilizes the surface, and adds great flavor. To accomplish this while leaving the interior raw you need two things:

1. A very high heat source
2. A very dry meat surface

What do you need:

- Large pieces of boneless cold meat without pronounced "seams" that are easily penetrated by a finger. Individual muscles are best. All surfaces must be directly exposed to the heat, nothing rolled or folded. The thicker the better. Less than two inches thick can make it hard to avoid too much cooking. A venison round or sirloin is perfect.

- A very hot heat source, the hotter the better. Suggestions towards the end.
- A meat grinder. This is a small job - any grinder should do. Or you can cut the browned, chilled meat into cubes and pulse it in a food processor a few times. Some burger aficionados actually prefer chopped to ground.
- Salt

Directions:

Remember this mantra: Clean surfaces, clean tools, clean hands. Not just to start, but through the whole process.

You are using higher heat than usual in cooking — be careful!

1. Trim meat of surface silverskin and fat. Blot the surface dry using a clean cloth or paper towels.
2. Rub a little salt onto all meat surfaces. ½ tsp per lb of meat is a good amount.
3. Wrap the meat in cloth or paper towels, place on a rack and move to the fridge. Don't cover with anything that would block evaporation — you want to wick away as much moisture as possible.
4. Leave meat in the fridge for a while - from 2 hours to 2 days. Change the cloth or paper towels if they show color.
5. Stage the detachable metal parts of your grinder in the freezer. A grinder cuts cold meat but smears warm meat. You can guess which provides better texture on the plate.
6. Brown all surfaces under high heat. Don't miss any spots, but work quickly. You want to brown the surface while avoiding cooking the interior.
7. IMMEDIATELY move the meat to the freezer on a clean rack for 20 minutes or so — long enough to chill and firm or slightly freeze, but not enough that you can't cut it.
8. Remove the chilled meat from the freezer.
9. Slice into roughly inch-wide strips or chunks.
10. If you want any spices distributed through your burger (pepper? Garlic powder?) add them to the meat and toss/mix.
11. Run it all through the grinder then return it to the fridge.

Relax, the hard part is done. Now you have a beautiful batch of flavorful burger that should be safe to serve rare. But don't get cocky. Time is a natural enemy of ground meat. Use or freeze it right away if you intend to serve it rare. Bacteria — opportunists who never pass up a free meal — are everywhere.

Prepare the burger according to your usual recipe, taking care to adjust for the salt you added. If you brown it using a high heat method you will double down on that great flavor, bringing even more of Dr. Maillard's magic to the party.

Depending on how lean the meat is and how well you kept the interior rare before grinding, patties may not hold together well. You may need to pat them tighter than normal. Some folks mix a little olive oil in the meat to help. Other options are sliced fresh mushrooms cooked until they are

softened and just starting to give off liquid (microwave works fine for this), or some lightly caramelized onion. Chill well and add to the meat just before grinding. These have the side benefit of bringing even more good flavor while adding very few calories.

If you don't mind the calories, include a fatty chuck roast or beef brisket point (not flat) along with your venison — all browned using the same process. Then grind it all together. A ratio of a third to half of your venison by weight should be good.

One last safety-nazi warning: when browning, keep in mind you are messing around with very high heat. Accidents might require more than bactine and a band-aid. Pay attention to what you are doing, keep the kids and pets away, and have a fire extinguisher handy. Maybe wait until you're finished before opening that second beer. And be sure the surface on which the meat rests while browning can handle the heat. A bbq grill grate is perfect. Normal cooking racks, like oven or cooling racks, aren't built to take temperatures that high.

Heat sources:

- GrillGun or Su-VGun from grillblazer.com. Possibly one of the coolest cooking toys you will own.
- A "Searzall" with a Bernzomatic TS8000. It uses standard disposable camping style propane bottles for fuel. This thing is VERY hot, and fun to use (but be careful!).
- A kamado style grill (e.g. big green egg) can be brought up over 800F without much trouble. Get it up to temp then brown the meat with the lid up, using the hottest part of the grill.
- In a pinch you can use your oven's broiler, or a smoking hot cast-iron pan, but it is easy to do too much cooking before you get enough browning. You want everything but the surface to stay raw.
- For the adventurous, a propane fueled weed-burner is cheap and works spectacularly well. Obviously that's not for indoors or near anything flammable. This is what I normally use.
- For a cheap and effective MacGyver-like solution, use a chimney starter and lump charcoal. Google "Dry Aged Chimney Porterhouse" for the details (and video), as invented by Alton Brown. It's a fine technique for cooking burgers or steaks.
- The most expensive option, the Otto Grill.

Enjoy that rare burger!

Celebrating the ultimate organic free range food

For more Killer Noms visit KillerNoms.com