



Caring For Wooden Furniture

A Practical Guide

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Introduction

As a restorer and preserver of beautiful furniture, I often see the results of years of neglect or misplaced good intentions on caring for wooden furniture of all ages. But it doesn't matter whether you are caring for a 100 year old antique, a new purchase or something you have created yourself, here are some basic things you should consider to care for your furniture.

Furniture and wooden objects are part of our lives every day. Some are utilitarian, such as a chair at the dining table; others are aesthetic, such as an antique sculpture or carving; still others may have an emotional or symbolic importance as mementos, such as a chest that has been in the family for years. Whatever their nature or purpose, if they are important to us they deserve the best care we can provide for them.

Preventable Damage

Damage to furniture can take many forms and paths. By far the most predominant damage to furniture is caused by poor choices its users and owners make

through misunderstanding the nature of wooden objects. Prevention can save costly repairs or even permanent damage. There are four main areas, where with a little care, may avoid damage. Examples could include:

- Poorly controlled ambient environment (light, relative humidity and temperature).
- Careless use, handling, and maintenance.
- Cleaning and maintaining wooden surfaces.
- Inadequate packing for transport or shipping.

The Ambient Environment

In this context "environment" means the conditions under which the furniture exists. The "best" environment for furniture depends on the owner's awareness, priorities and resources and is often a balancing act between them.

Sunlight

Probably the easiest environmental issue to understand and resolve for furniture is damage from sunlight. For the most part, sunlight damage takes the form of discoloration, usually bleaching. Sunlight induces bleaching and degradation in most components of furniture: coatings, whether transparent or polychrome; the wood itself; and especially upholstery textiles. Generally, sunlight damage is cumulative and permanent.

Responding to the potential for sunlight damage is relatively simple and can also be straightforward: when the furniture is

not in use, it is best left out of direct sunlight. Even when furniture is in use and in the sunlight, damage can be reduced through common devices like window shades, curtains, and screens for protection from direct sunlight or elevated light levels like spotlights.

The most important thing to keep in mind is the relationship between light and damage to furniture surfaces. As long as there is light, there will be light damage proportional to its intensity and exposure time. But the application of simple measures can go a long way to reducing damage.



Relative Humidity

Perhaps the greatest environmental damage to furniture comes from wide swings in relative humidity. Wood absorbs and de-sorbs water as relative humidity rises and falls, and in doing so it swells and shrinks. Making matters worse, it expands and contracts unequally along different grain directions. This characteristic remains as long as wood exists, whether it is new from the timber yard or a 100-year-old antique.

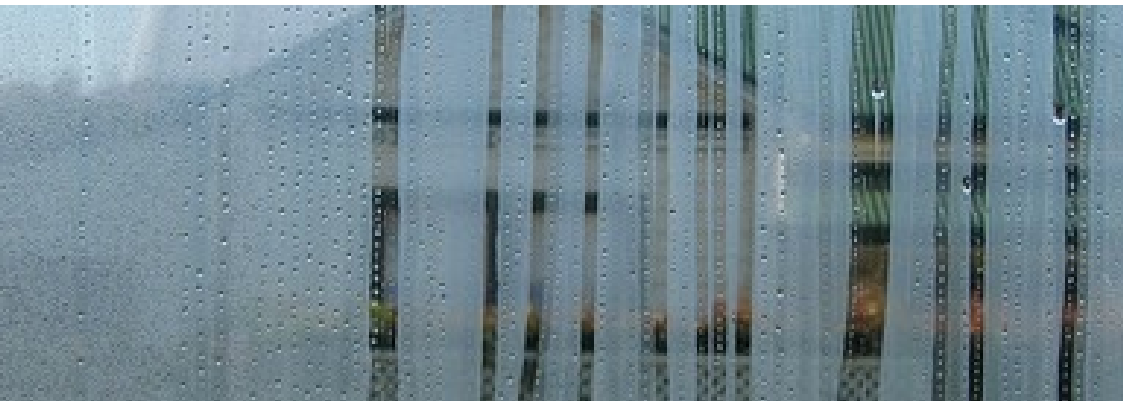
As humidity changes, the components of wooden objects are continually pushing and pulling against each other. This pressure often results in parts of furniture no longer fitting together closely or becoming distorted or breaking from their own internal stresses.

Wood is not the only furniture component to suffer from humidity swings. As they age and deteriorate, coatings become more inflexible. Since the wood continues to move with humidity changes, and the coating becomes increasingly brittle with time, humidity fluctuations eventually cause the coatings to begin fracturing or separating from the substrate.

This problem becomes particularly severe when coatings are likely to be less flexible from the start, such as painted surfaces or gilding, which is often applied over a rigid ground called gesso.

The response to relative humidity changes begins with determining the annual average relative humidity for your particular climate. Then try to keep the relative humidity in the space where your furniture is a close to that average as possible, generally within about 10% plus or minus. This stability can be achieved through de-humidifying in the summer and humidifying in the winter.

Be aware that raising the temperature lowers the humidity and vice versa. Thus, modern heating systems, which can drive down interior relative humidity in the winter, almost invariably cause problems for furniture. To counteract their effect, you can modify the relative humidity by keeping furniture-containing spaces cooler in the wintertime. A humidistat automatically adjusts temperature to maintain a stable relative humidity.





Attack from Insects and Animals

Insect infestation, in particular, can destroy a furniture collection in a short time. Termites, carpenter bees and ants, powder post beetle larvae, and other insects can severely damage wood by eating channels beneath the surface.

The larvae tunnel through the wood until they are ready to emerge through exit holes at the appropriate time in their life cycle. At these exit holes the chewed and digested wood is often pushed out as the insect exits. These are important clues for you in monitoring furniture, as the sides of recent exit holes have the color of newly-cut wood.

Piles of insect excrement and wood dust, called frass (or frass), under or on your furniture may indicate an active infestation. Quarantine the suspect object immediately. If the infestation is confirmed, fumigation will be necessary. In addition, you will need to increase monitoring of objects near the affected furniture, for likelihood of their being infested is now greatly increased.

Rodents usually do not eat the wood for its own sake but rather gnaw through it to get to the food on the other side. The best way to prevent rodent damage is to not store any food, including condiments, in wooden furniture. Since food also attracts insects, it is a good idea to keep food as far from your collection as possible.

The presence of rodents in a piece of furniture are more symptomatic of problems with the building environment, which must be sealed to keep rodents out.



Mold, mildew and fungi are everywhere - on furnishings, walls, and in the air. But fungal infestation will occur only in the presence of an external moisture source or when the fiber saturation point (nearly 100% relative humidity) is approached. Still air and high temperatures also encourage the rapid growth of these organisms. Molds and mildew growing on the surface of wood may stain it. Other fungi can completely destroy wood.

The control of mold and mildew is quite simple: do not let the relative humidity rise above 70%. Even if an active infestation exists, lowering the relative humidity will cause the mold and mildew spores to become dormant. Similarly, cooler temperatures will also reduce fungi growth. Lowering the relative humidity in a damp area should be done very slowly to prevent excessive stress and possible warping and splitting of wooden furniture.

Once the room is allowed to dry out to a humidity level below 70%, the dried, inactive mold residues can then be carefully vacuumed off furniture surfaces. Be careful not to breathe or scatter the dust, and clean the vacuum after use.

It is also important to locate any source of excess moisture and determine what can be done to remove it. Underground walls should be sealed and vapor-proofed. Leaks should be repaired in roofs and walls.

Fungal damage, or rot, can only occur in areas of extreme dampness at moderate temperatures. Unless your furniture gets wet and stays wet, this type of damage is not normally a severe problem. However, if your furniture is stored in areas where water incursion is a common problem, such as basements or attics, or sheds these areas must be surveyed every time it rains.



Use and Handling

Here are some common-sense pointers:

- Protect surfaces from fire and excessive heat
- Sit only on structures designed for that purpose and don not stand on chairs
- Be careful about what you place on a piece of furniture

Hot items, such as irons, coffee mugs, and steaming tureens can literally melt a finish away. Water from spills and condensation from vases and cold drink glasses can damage and deface coatings through "blooming," an effect that makes transparent coatings white

or milky. Damage is even worse when the liquid itself stains the surface, such as when ink or coffee or tea is spilled, or if the coating is penetrated and the staining liquid enters the wood itself.

Organic solvents, such as fingernail polish and remover, perfumes, and alcoholic drinks can behave as paint and varnish removers on many kinds of coatings.

These problems are simple to address. Using coasters, oversized ashtrays, and writing pads can virtually eliminate the potential for damage.





Cleaning Surfaces

For the most part, maintaining furniture simply means keeping it clean, carefully. Wood furniture usually needs to be cleaned only when there is a buildup of wax or dirt. Only unfinished wood, painted wood, or wood with a sturdy finish should be cleaned. The finish on gilt-wood is often applied with a water-soluble size, or adhesive; it should be carefully dusted, not cleaned, or cleaned only by a professional.

Before cleaning wood or coatings, the first and most important step is to evaluate the surface and make sure that the surface or coating is stable and not apt to be damaged by the contact required in cleaning and polishing. If the surface is unstable, the polishing could knock off loose portions. Damaged surfaces should be carefully assessed before starting any cleaning. After the soundness of the surface has been established, the next step is to find out what the dirt is and what the surface is.

If you can't determine these exactly, find out what removes the dirt without affecting the surface underneath it. Often, dust can be removed with the careful wipe of a damp cloth. Oily dirt or waxy residue can be removed with a mild detergent and water solution or with mineral spirits. However, it is vital to make sure that the cleaning solution does not affect the underlying surface.

Even when you determine a cleaning method that works successfully, proceed cautiously. Loose dust on the surface can be removed with a soft, lint-free cloth, gently rubbed over the surface. Dust is an abrasive and can scratch the surface, so be careful.

Uneven areas can be dusted with a clean, natural bristle paint or artist's brush. Again, do not try to dust a surface that is severely deteriorated. Cloth fibers can catch and tear away pieces of the finish, veneer or loose parts. Even rough edges can splinter. Carving, fretwork, and other delicate work can be dusted with a soft bristle brush, with a vacuum cleaner held close enough to take in the dust once it is dislodged by the brush. Do not use feather dusters, as they can scratch and pull off loose fragments of veneer. Surfaces in good condition but with a heavy accumulation of dust can be cleaned very carefully with a vacuum cleaner. Use the lowest suction available and the round brush attachment. Don't let the metal or hard plastic parts of the vacuum bump into the surfaces; they can scratch the finish or wood. Much damage, in fact, occurs at the feet and bases of pieces when they are hit with the vacuum cleaner.

Dirt that cannot be simply vacuumed off may be removed with cleaners mixed in a dilute solution, but only if the finish is in good solid condition. First, determine which solvent removes the dirt without removing the finish. Those to be tested include mineral spirits (white spirit), paint thinner, and naphtha. Second, test a small spot in an obscure area with the solution on a cotton swab. All areas that appear to be a different coating or material must be tested separately. Only if the

solution does not damage the test area should it be used to clean the rest of the piece.

For finished wood, dampen a cotton cloth with the solvent or cleaning solution, and gently rub over a small area at a time. Avoid using too much liquid, as they can cause damage. Then, wipe the cleaned surface with a clean dampened cloth to remove any cleanser residues, followed by a dry soft cloth.

Following simple cleaning, further protection and aesthetic enhancement can be obtained through the application of a stable, hard furniture polish, such as a hard paste wax. The hard wax surface can be dusted more easily because it will be more smooth, and the dust will not be imbedded in it as it would in an unwaxed surface. Waxing need only occur infrequently because the wax itself is not readily removed and it does not degrade chemically. Waxing too often can result in a built-up, clouded surface.

This simple approach avoids the problems created by popular methods of "furniture polishing" - such as sprays and oily polishes - that may result in cumulative damage to furniture. Many polishes and residues continue to be a vexing problem for furniture conservators, as they can build up over time and with numerous applications, trapping and adhering airborne dirt onto the surface.



Speciality Cleaning

Cleaning Upholstery

Dusting upholstery can be accomplished by a vacuum cleaner. Place a soft screen on the surface to prevent any snagging or abrasion from the vacuum tip, and using a brush attachment, carefully vacuum the surface.



Stains and other damage to upholstery should be referred to an upholstery or textile specialist for further treatment.

Metal Hardware

One never-ending concern of furniture caretakers is for the hardware, including handles, brackets, hinges and escutcheons attached, usually with nails, to the outer surface of a piece. The metal in hardware might be brass, silver, gold-plated bronze, depending upon the style, date and country of origin. Contemporary hardware attachments sometimes have a clear lacquer finish that gives them a shiny appearance. Antique hardware is also sometimes coated by restorers and conservators to eliminate the need for constant polishing. There is currently a lot of debate in the conservation field as to whether metal hardware should be lacquered or polished. Neither is an option if there is evidence of an original varnish or if abrasive polishing would remove some other original surface treatment. Furniture hardware may become dirty and tarnished with use and exposure to the atmosphere. In such cases, polishing it can be justified. However, even this step is sometimes a poorly informed one.



One common example of the damage is created by polishing hardware supposed to be brass, when it is really gilded bronze that is simply dirty. Polishing removes the gold, damaging the surface of a beautiful sculptural element.

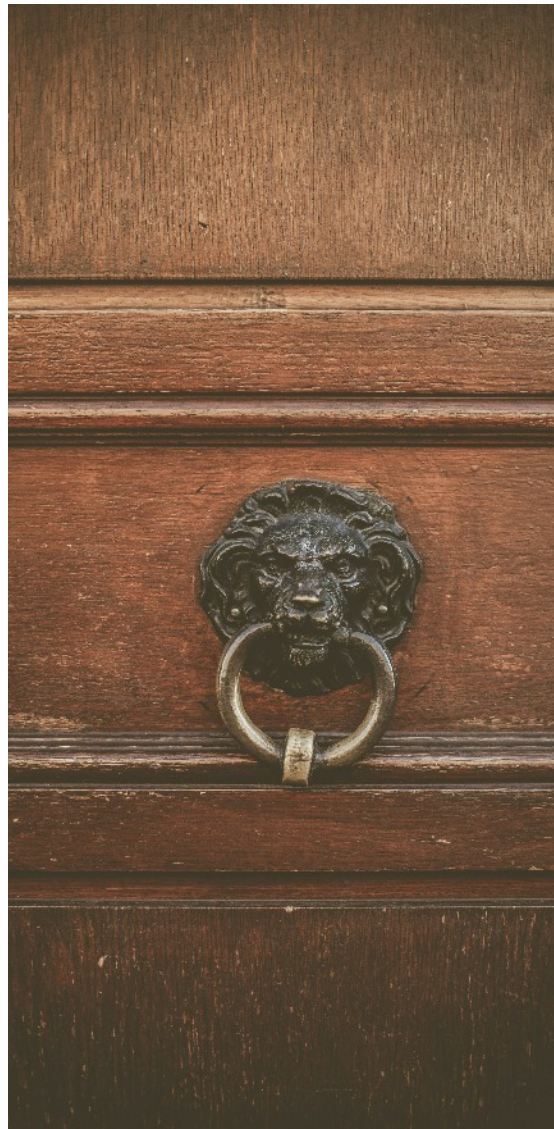
If you choose to polish, remove the hardware from the piece, noting the exact location of each screw and nut. Polishing the hardware while on the piece damages the surrounding finish and also allows polishes to run beneath the hardware that can further damage both the metal hardware and the finish.

Clean hardware carefully with a 50/50 mix of acetone and alcohol to remove any dirt and oil residue, scrubbing the piece with a soft bristle brush. After drying, the surface can be polished with a fine, lint-free cloth of felt block charged with a very fine abrasive, such as calcium carbonate or jeweler's micro polish, in an alcohol or mineral spirits slurry. Commercial polishes can contribute to the deterioration of the hardware, as they frequently contain harsh cleaners that corrode the metal.

If the hardware cannot be removed safely from the furniture it can be polished and coated on the object provided the following precautions are scrupulously followed. First, the surface of the wood and varnish must be completely protected. Acetate sheets, such as those found in office supply stores, can be notched and slid under the hardware from both sides to form an overlapping barrier. Without

this precaution, attempts to polish the hardware will likely end in disaster.

Since this hardware cannot be doused with the acetone and alcohol mixture, cleaning must be done by dipping swabs in the solution, then rubbing the metal surface with the swab. Polishing must also be done more carefully, perhaps on a smaller scale.





Handling and Moving Furniture

In addition to using furniture wisely, it is important to handle it carefully. Safe handling and moving of furniture begin with a basic understanding of how a piece is constructed. The second step is to plan carefully.

Before picking up a piece of furniture, determine how it is put together and if any of its parts are removable or detachable. Make sure you know where the furniture is its strongest - generally along a major horizontal element - and try to carry it from these points.

Then examine the room and the route whereby the furniture is to be moved. Look around to make sure you know where everything is. Identify potential trouble. Light fixtures that hang low, for examples, or that extend out from the wall may be damaged or cause damage. Glass table tops are also easily damaged if bumped. If necessary, clear the way by moving or removing fragile or obstructive items. Protect the furniture to be moved with soft padding or wrap it in a blanket pad. Padding, which will provide extra insurance against bumping and gouging, is especially important if an item is going into storage.

Before moving an item, make sure you know exactly where it goes next. Plan ahead to adjust the temperature and relative humidity in the new location so they are the same as where the furniture presently is. Extreme changes in temperature and humidity can cause splitting of joints and veneers.

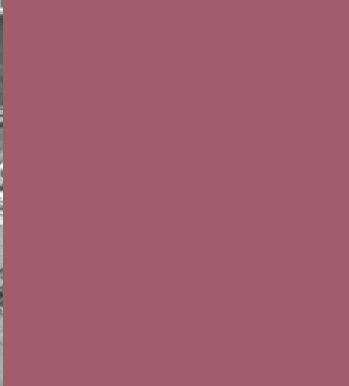
Never hurry when you are moving furniture. Scratches, dents, and gouges from bumps against hand truck, doorways, and other furniture are always more likely in haste. Each item needs to be approached individually, without haste, and with sufficient manpower present.

Make sure you have a firm grip on the piece with both hands. Do not wear cotton gloves. It is essential that hands not slip from a piece of furniture while it is being moved. Never slide or drag furniture along the floor. The vibration can loosen or break joints, chip feet, break legs, etc., to say nothing of what dragging does to the carpeting or finish on the floor. Whenever possible, use trolleys or dollies for transporting heavy pieces.

Handling valuable furnishings requires a special attitude: in general, movement should be carried out at a slower pace. Here are some quick tips for moving furniture properly. Remember: If you don't break it, it doesn't have to be fixed!

- Have helpers on hand to guide the movers so they don't crash into walls or other pieces of furniture
- Anticipate trouble - think through every step - plan ahead - and do everything with care
- Make sure the route is clear and has no obstructions, such as narrow doorways or hanging chandeliers that might hinder the safe passage of furniture and movers





Special Moving Tips

Seating Furniture

When lifting a chair, remember that the seat rail is its strongest part, not the chair back. Frequently lifting by the back, especially the crest rail, will eventually result in breakage. For small chairs, lift by the side seat rails, one hand near the front on one side, the other near the rear on the other side. When lifting a large chair or sofa, the principles are the same. Grab underneath the side frame, making sure to lift with your legs rather than your back. For upholstered chairs or sofas, place your hands underneath the frame to avoid touching the upholstery. If upholstery must be touched, use cotton gloves. For chairs with slip seats, remove the slip seat and wrap and move it separately to prevent its being soiled or falling out during the move.

Tables

The strongest part of a table is generally the apron. Whenever possible, lift the table carefully from the apron, never by the top or legs.

Lifting on the top rather than the apron may break the glue-blocks that hold the top to the frame or strip out the screws that hold the top on. Grabbing the legs, particularly tables with long, unsupported legs, will cause unnecessary stress on the leg and the joint connecting it to the apron. Whenever possible, wrap padding around a table's legs before moving it to prevent chipping or breakage during the move. If you are moving a drop-leaf table, first determine which support members move. Is the table leaf supported by a bracket or by a swing-leg? Fold the leaves down, and restrain them with padding and a tie band. If the support is provided by a swing-leg or gate-leg, tie it in place as well. The only safe place to grab a drop-leaf table is underneath the end aprons. Grabbing by the legs, especially swing-legs, will increase the chance of damage to them, and grabbing the table by the side leaves will often result in fracturing the long rule joint that allows the leaves to drop.



Case Furniture

While case pieces, especially large ones, may appear very different from tables and chairs, the same rules apply. Never try to move a large piece by yourself. A case piece requires at least two people. While a case piece requires can be moved by carrying it carefully, holding on to the bottom as you would a table or chair, it is better to move the piece on a dolly.

A dolly makes the move safer for both the movers and the object, and that is all the more true for large objects. First, examine the piece. How was it put together? And how can it come apart?

Take the piece apart as much as is possible. That is, remove the top piece of a cabinet from its base; remove the cornice or pediment, if there is one. If the carcass is sturdy enough, remove any drawers to lighten the load and make the move easier. Carry the drawers separately to the destination. However, if the carcass is weak and shifts from side-to-side, leave the drawers in place to provide stability and prevent further damage to the joints. Tall pieces that do not come apart into separate sections need to be set on their sides on a dolly to prevent their topping over.

Large Clocks

The moving project becomes increasingly difficult with objects that are large and complex. Objects that come apart into many pieces or are unwieldy require extra care and preparation. Because of their many parts grandfather and grandmother clocks are very difficult to move. Always remove the pendulum and weights from within the clock before doing anything else. These pieces are heavy and will damage the clock case if they smash into the side of the case. They may also cause damage to the mechanism itself. Wear cotton gloves when you remove the pendulum and weights, to avoid corroding the metal pieces from skin contact. Remove the hood from the top of the clock (they often slide forward) and lay it down to pack and move separately.

Make sure the door to the case is locked or securely closed before moving the clock. Use bare hands, not gloves, for moving and packing the carcass of the case. For short moves, like those of only a few feet, it is permissible to lift by grabbing the narrow case from the underside of the molding at the top of the waist, or center portion of the case, provided that the molding is firmly attached to the case itself. For longer moves, or if that molding is not secure, the clock case should be carried flat like a coffin.





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