Safety Lessons Learned

Risks are routine on the job site, and it's easy to drop your guard. But a moment's carelessness can turn an everyday task into a nightmare. Here are stories from five builders who learned the hard way.

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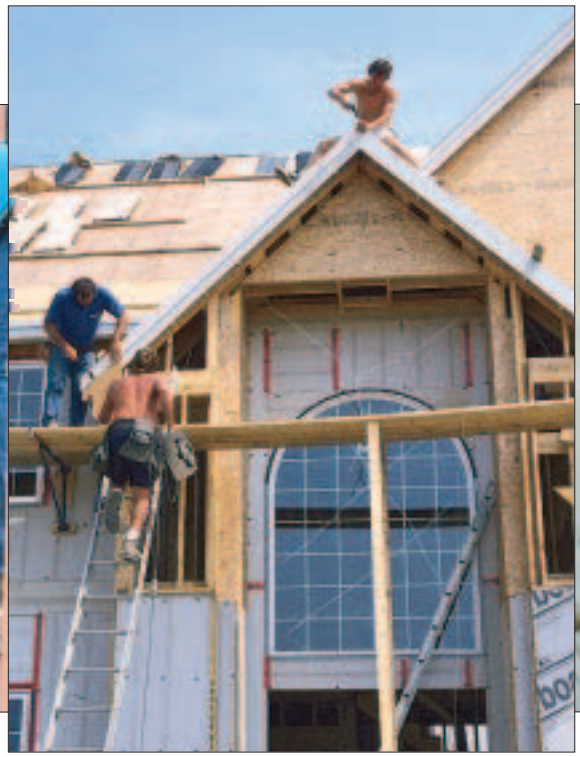

C. BATES

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You come back from a run to the hardware store to find your job site in chaos. Ambulance lights are flashing, radios are crackling, and paramedics are carrying your top carpenter away on a stretcher. A jumble of thoughts rushes through your mind: *What happened? Is he going to be okay? I'll have to call his wife. Could I have prevented this? What's this going to do to my business?*

Maybe you couldn't have prevented it, and maybe you could have. Either way, a catastrophic accident will bring your job to a grinding halt — and dealing with it will take over your life for awhile. But even small injuries, the kind we take for granted, will hurt your business over time. If you can't prevent all of them, at least you can cut down on their frequency.

In the next few pages, we'll look at some stories that are unpleasant but true. Each story can teach us a little about the dangers on a construction site. Taken together, they remind us of one thing: Safety matters — and no one in this business can afford to neglect it.

continued

JLC Staff Report

Table Saw Kickback

Think back to the first time you used a table saw: Remember how nervous you were? Just the thought of putting your fingers near that spinning blade was scary. After you'd used it a few times, though, you came to appreciate its ability to make fast, fine cuts. Soon you were so comfortable with the saw that you forgot about the danger.

But the danger is still there. A typical table saw has about a 1 1/2-horsepower motor. And as Andrew Wormer can tell you, if you get too comfortable with a table saw, you just might find out what it's like to get kicked in the face by a horse and a half.

OSHA would call Wormer's accident a "struck by" injury. The way OSHA keeps score, a struck-by injury could be anything from pushing a plunge router into your thigh to having a 24-foot 8x10 fall on your head. OSHA has identified this broad category of accidents as one of the top four construction killers, and they focus on it in their inspections. But even "small" injuries of this type are costly, and the more frequently they happen on your jobs, the higher your insurance premiums will go.

Table Saw Safety Tips

Short of wearing a full suit of body armor, the best way to avoid "struck-by" accidents is to keep a few appropriate items of protective gear on hand. As for table saws, they can do more than throw things at you. Here are a few suggestions for reducing the chances that your table saw will hurt you:

- ✓ Stay alert. If you're tired, hungry, or need a break, leave the table saw alone.
- ✓ Use an outfeed table or stand. If you don't have one, use a helper to catch the outfeed.
- ✓ Keep blade guards on the saw, and in good working order.
- ✓ Keep your blades sharp.
- ✓ Hang a push stick on the saw, and use it for every cut that brings your fingers anywhere near the blade.
- ✓ Don't set the blade depth higher than necessary.
- ✓ Don't wear loose clothing.
- ✓ Keep the floor around the saw clear of debris.

How I Broke My Jaw with a Table Saw

by Andrew Wormer

My stomach was growling almost as loud as the table saw as I fed the short 2x6 into the blade. It was well past lunchtime, and it had been one of those hectic mornings when there hadn't even been time for a morning break. The electricians were busy running cable, and we were trying to finish the last bit of framing so that we could get out of their way.

I looked over at Glenn, who seemed to be saying something to me over the noise of the saw. I was thinking that it must be finally lunchtime as I finished the cut. I reached over and grabbed the end of the 2x6 and started bringing it back so that I could shut the saw off.

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Don't get too comfortable with powerful tools like table saws. They can hurt you badly in the blink of an eye.

Suddenly, I was on my knees, seeing stars, and pieces of teeth were swimming around in my mouth. There was the familiar taste of blood, and with my tongue I could feel something sticking out of my lower jaw that felt suspiciously like a broken bone.

I was dazed and spitting blood and bits of tooth as I staggered to my feet and towards the bathroom. I felt arms holding me up, and was vaguely aware of all the confusion that accompanies an accident scene. I knew from the pieces floating around in my mouth that I had taken a big hit in the face, and I knew — despite the pain and shock — that this was going to be a big problem to fix.

I don't remember much of the ride to the oral surgeon's office, where they confirmed my broken jaw, or the ride to the hospital. I was lucky: I wasn't working alone, and when I got hurt the people I was with knew what to do. Almost before I knew it, the surgery was over: the smashed tooth extracted, the jaw set, the plate screwed to the bone, the incision stitched up, and my mouth all wired up with a particularly nasty set of braces that I would live with for the next two months.

When my wife brought me home from the hospital the next day, I was clutching the bottle of Percodan like a life jacket. I was thankful for my wife's excellent medical and dental insurance, because I knew that the guys who had fixed me charged a lot more per hour than I do.

Eventually, the braces came off my jaws, and I was able to eat and work normally again. I had my missing tooth replaced (with more surgery), and my four or five other badly chipped teeth fixed. Insurance paid for most of the medical and dental bills (eventually), and the whole adventure ended up costing me only a few hundred dollars out of pocket.

Why did all this happen? Because of a split second of inattention, and an unsafe shop practice. Instead of pushing the cut 2x6 through and off the edge of the saw, I reached over the top and grabbed the end of it to keep it from falling and denting the finish floor. As I brought the board back over the still-spinning blade, the end dropped into the blade, and the whole board shot back at my face like a missile. I've made thousands of cuts with this saw, most of them safe, some of them just like this one, but none of them with such horrible results. I think that I felt too comfortable with the saw; of course, that's changed now, but it cost a lot of pain and money to do it.

Andrew Wormer is a builder in Middlebury, Vt.

Heavy Lifting

Lifting is a low-skill, everyday task we don't think much about. But back injuries caused by improper lifting are the single costliest workplace injury nationwide. The average back injury costs close to $30,000, not counting lost time and productivity. And if you're the one whose back gets hurt, you'll be feeling it for a long, long time.

As Louis Gendron's story illustrates, lifting takes on a whole new dimension when you try to lift an object that's too big for one man to handle alone. The heavier the object being raised, the more destructive power it represents. Big beams and long walls deserve a lot of respect: Whether it's a crane cable that snaps, or a group of people who lose control of their load, the sudden release of hundreds of pounds of building materials can really hurt someone.

On top of the physical problem, there's an organizational problem. Managing heavy lifts is a tricky proposition. When more than one trade and more than one employer are on the site, communication can get complicated. Straightening out who is responsible for what is never as easy afterwards as it would have been beforehand.

Tips for Safe Lifting

- ✓ Organize a job in a way that reduces the weights people have to handle. Large walls can often be built and raised in sections, and large beams can be built up in place out of thinner members.
- ✓ When you have to lift heavy weights, plan the lift in advance. Choose one responsible person to direct the work.
- ✓ When raising heavy loads, consider breaking the lift into stages by providing sturdy sawhorses or pipe staging to catch the weight at an intermediate height.
- ✓ Encourage workers to ask for help with heavy loads: No one should strain too hard to lift any object.
- ✓ Provide employees with steel-toed boots. Such gear can keep a minor mishap from turning into a hospital visit.
- ✓ Rent cranes, portable hoists, wall jacks, hand trucks, chainfalls, and other such equipment as necessary. The cost is usually made up in labor savings.

Failed Communication Leads to Injury

by Louis Gendron

John was in the wrong place at the wrong time. In fact, he was only on the site by chance. An employee in my concrete business, John stopped by one of our jobs a couple of days after a wall pour to strip, clean, and stack the forms. As he was getting ready to leave, the builder asked him if he could lend a hand lifting a newly framed wall into place.

The wall was 10 feet tall, nearly 60 feet long, and fully sheathed. It had been framed on the ground just outside the foundation, and about a dozen people were on hand to tilt it into place. The plan was to position people more or less equally along its length. In case the wall proved too heavy — no one had ever lifted a wall this long before — the builder directed people to stand next to window and door openings. If the lift stalled midway, he reasoned, they could duck into an opening and let the wall come down around them.

John was in no hurry and was the type to always lend a hand, so he took a spot near the center. On the count of three, everyone started lifting. The wall came up to waist height fairly easily. But as the wall moved past 45 degrees and the crew began to "walk" it into place, a gust of wind came up. Almost instantly, the added pressure of the wind made the weight of the wall unbearable.

Someone shouted "Drop it!" and everyone let go — jumping to one side, running out from under, or ducking into an opening as planned. Everyone except John. He couldn't hear the shouting above the wind, and took the whole weight of the wall as it crashed back to the ground.

John lay in the mud, unable to move, for nearly 90 minutes before a rescue team arrived. In addition to numerous lacerations on his arms, legs, and chest, John sprained his neck and broke his back, several ribs, and one ankle. He spent weeks in the hospital and four years in court, where he won a settlement that amounted to about one year's wages.

Heavy lifts call for extra care. Break the lift into stages and make sure you have enough manpower.

John still feels the effects of his injuries. The last I heard, he was working in sales. But his lifting days are definitely over.

Louis Gendron owns Gendron Building, a concrete contracting company in Montpelier, Vt. A fictitious name was used for this story to protect individual privacy.

Electric Shock

Electricity is the second leading killer on construction sites, right behind falls. In fact, as Rex Cauldwell's story points up, the two are sometimes related: An electric shock can cause a fall. If you get an electric shock and fall off a ladder, we don't know which kind of statistic OSHA will consider you to be. But if you're lucky, you'll just get a scare, and you'll learn to respect the juice — especially when you're working up high.

Cauldwell's story teaches another lesson: Electricity gives warnings. When you feel that little tingle or see that spark jump, find out whether you've brushed up against 12 volts or 600 before you cross that circuit again.

Tips for Electrical Safety

Electricians spend many long hours learning about electrical safety. Your best bet is to hire a good one, and let him or her handle the wiring. For non-electricians, here are a few tips to bear in mind:

- ✓Use ground-fault circuit interrupters (GFCIs) for all your power cords.
- ✓Inspect power cords routinely and keep them in good repair.
- ✓Use high-quality tools with insulated grips. Wooden or fiberglass handles are safer than metal ones.
- ✓Use wooden or fiberglass ladders — metal ladders conduct electricity and can electrocute you if they contact a live circuit. Watch for overhead power lines when carrying or placing ladders.
- ✓For demolition work, wear gloves and rubber-soled boots. Live circuits can be hiding in walls where you don't expect them.
- ✓Never assume a circuit is dead. Test it with a circuit tester.
- ✓Be cautious on rainy days or when working in damp areas. If your feet are wet, you are grounded to the earth — an electric charge might choose you as its path of least resistance.
- ✓Don't push your luck. If you feel a small shock, stop work immediately and locate and remove the live circuit.
- ✓Take special care when working near a panel or service drop. High-voltage power is supplied to the panel even when the main breaker is off. To be safe, call the electric company and have the power turned off at the pole.

A Close Encounter With High Voltage

by Rex Cauldwell

After several years as my helper in our electrical business, my wife, Diana, could pull, staple, and strip wire with the best of them. But overconfidence almost became her downfall — literally. Fortunately, this brush with electricity was frightening rather than fatal.

We were making some changes to the wiring on a nearly completed timber frame. Diana was 20 feet up on a scaffold pulling cables with her left hand while cutting with her right. Unexpectedly, one of the cables turned out to be hot. When pliers cut a hot wire, the pliers become as electrically hot as the transformer on the utility pole. For a brief instant, with no load on the circuit, 10,000 to 100,000 amps at 240 volts are available and can go through the human body before the breaker can react to the surge and open the circuit. And it only takes .005 amp to kill.

The only thing standing between Diana and that deadly power was the insulated handle on her pliers. (I make it a rule to always use insulated-grip tools.) She had no way of knowing the pliers were hot from cutting into the black wire until they cut into the grounded neutral. But then a loud crack issued across the room, accompanied by a flash of light and a puff of smoke.

It is at this moment that most people get hurt — not from the shock, but from their reaction. They fall; sometimes off a ladder, or, in this case, off 20 feet of scaffolding. But as trained, Diana closed her eyes, cringed, and did not move until the breaker finally tripped. Insulated handle pliers and keeping cool in a shocking situation proved their worth.

Rex Cauldwell is a master electrician in Copper Hill, Va.

Falling

In residential work, where OSHA-compliant scaffold setups are a rarity, fall injuries are all too common. One reason comp insurance companies charge high rates to cover frame carpenters is that falls are the number one killer on construction sites.

In house framing, it's sometimes impossible to set up scaffolding that won't get in the way of the work. To compensate for unsafe staging, carpenters rely on grace and skill — and a lot of luck. Maybe that's why residential contractors and tradesmen often work from ladders, or walk out on rickety, makeshift staging, even when erecting a safe, sturdy scaffold would be practical. Maybe it's because we trust to our luck that we sometimes take chances we could easily avoid.

Unfortunately, everyone's luck runs out sometime. And when our luck runs out the way James Mortensen's did, we take the fall *(story on next page)**.*

Tips on Fall Protection

Fall protection should be a routine part of safety planning for any construction project. Every job is unique, but some general ideas apply to most cases:

- ✓Budget for safe scaffolding; a job that's not worth doing safely is not worth risking your life on either.
- ✓Organize the job to reduce the amount of high-wire work. Do as much cutting and fitting on the ground as you can.
- ✓Reduce the need to climb — climbing up and down is one of the riskiest parts of working on staging.
- ✓Reduce injuries on the ground beneath the staging by marking off the area around scaffolding with warning tape. Keep people who aren't part of the job out of the area.
- ✓OSHA-approved manufactured staging makes the safest work platform. Inspect wooden planks often, and replace unsound ones.
- ✓Don't trust staging you didn't build: Inspect any existing scaffolding before you use it.
- ✓Don't overload staging. A scaffold that would easily bear one man's weight might not support three men and ten bundles of shingles.
- ✓Anchor ladders at both top and bottom, and position ladders at the correct angle.

Scaffolding Collapse Leaves No Time to React

by James Mortensen

Three years ago, I was running a successful construction business. I was always busy, and things were going great in my life. In a few days, my fiancée and I planned to send out our wedding invitations.

My five-man crew was busy on a third-floor addition project. Since I knew they could handle things without me for a few days, I agreed as a favor to give a young fellow I knew a hand with a small roofing job.

The work involved shingling the roof of a new two-story timber-frame house sheathed with stress-skin panels. I didn't think the drywall, foam, and plywood sandwich panels would be strong enough to support the bolt-on staging brackets I would ordinarily use for that kind of job. My pipe staging was all tied up on my main job, and there wasn't enough money in this small roofing job to pay for buying new equipment. So I advised the guy I was helping out to make some wooden angle brackets out of 2x6 lumber, and fasten them to the wooden framing with about ten 3-inch drywall screws per bracket.

We had shingled the front of the roof together, and I was laying starter courses on the back of the house by myself, standing on wooden planks supported by those wooden brackets. My friend stuck his head out of the window to talk to me, then climbed onto the staging and walked over to where I was working.

His weight plus mine was too much. We never finished the conversation, or the job. One and a half seconds later, we were both on the ground, 20-some-odd feet below. The drywall screws had sheared right off, all at once — we never even had time to react.

My luck was a little worse than his. He fell in the soft earth a little farther from the building. But my left foot touched down on a concrete footing. The impact drove my left thigh bone right through my pelvis, shattering my pelvis and rupturing two disks in my spine. The other guy was out of the hospital in a week, but I spent three solid months flat on my back.

It wasn't quite as bad as it could have been. Bit by bit, over three months, I managed to make my legs move a little. Today, three years later, I can get around on crutches (though I can't carry anything because I need my hands for the crutches). From the knees up, everything seems to work all right.

Proper staging and good planning are keys to reducing fall risks.

My fiancée and I went ahead with the wedding, and I've slowly worked out a way to make a living. At first I tried carpentry. I did a couple of siding and trim jobs with my father — he would set me up with a chop saw and the material, and I would sit in a wheelchair and cut while he nailed. But Dad's 70 years old, so that couldn't go on forever.

I tried contracting a couple of complete houses, just handling the business end and subbing out most of the work. But since I can't get around the job to supervise, I can't be sure the results are something I want to put my name on. I did some finish work — in fact, I built a whole custom staircase working on my hands and knees. It was a good product, but that kind of work wasn't going to give me independence.

One morning I woke up and told my wife, "Honey, I'm going to buy a bulldozer." I've worked with construction equipment all my life. Now it's become my key to independence as an excavation contractor. A friend sold me a bulldozer on good terms — I paid it off as I did the work. After a while, I was able to get a rubber-tire backhoe. and a second-hand excavator.

I have one employee, a laborer who does the shovel work and helps me set grades. Now I can run my own job, and live up to my own standards of quality.

After three months lying on my back thinking about what I should have done differently, and after three years of struggling just to get by, I have this to say to other contractors: Don't skimp on safety. It isn't worth it. OSHA rules may be inconvenient, but they aren't designed to put anybody out of business — they exist to keep you and your help safe and healthy. Following safe practices is one heck of a lot easier than dealing with what I have to cope with now.

It's hard to work safely when your competition isn't. I see plenty of contractors taking too many risks every day. But those guys are asking for an accident. It's like a friend of mine said to me: "God takes care of the fools who don't know any better. But you know better. You've got to take care of yourself!"

And a word about drywall screws: Don't use them for any structural purpose. They aren't designed for it.

Excavation contractor James Mortensen lives in Charlton, Mass.

Nail Guns

If you're building houses, you're driving nails — millions of them. No list of residential job-site hazards would be complete without mentioning nail guns. The classic old carpenter's injury, whacking your thumb with a hammer, has now been upgraded to the machine age: The new classic injury is shooting a nail through your hand.

Although most nail-gun injuries are minor, some are anything but. A nail in the fleshy part of the hand is not a big deal, as long as the wound is carefully cleaned. But if puncture wounds become infected, they can cause fatal blood poisoning. And a pneumatic nail that penetrates the spine can cause paralysis. Pneumatic nails that miss the wood, or fly right through a soft piece, can put out someone's eye.

Tips for Nail-Gun Safety

Nail guns have become so common that we tend to take them for granted — and that is part of what makes them dangerous. Give new employees a safety lesson on the nail gun — don't assume they already know about it. In fact, a refresher course on nail-gun safety couldn't hurt any carpenter. Nail-gun manufacturers can supply you with a developed safety program for their tools. Many have packaged instant safety meetings, complete with visual aids.

Bounce-nailing is a common cause of injuries, and so is brushing the nose of the gun against something or someone with the trigger depressed. Both types of injury are preventable by using a gun equipped with a "sequential fire" mechanism that requires the user to press the nose down first, then pull the trigger. Most manufacturers now supply a sequential fire option.

Here are a few more tips on safe nail-gun use:

- ✓Take care when nailing near the edge of the wood. Nails can miss the board and become projectiles.
- ✓Wear eye protection.
- ✓Keep hands away from the target area.
- ✓Avoid knots and imperfections in the lumber. They can deflect or curve a nail.
- ✓Have stable footing.
- ✓Wash and bandage puncture wounds promptly. Keep tetanus shots up to date.

Misfires and Bad Habits

by Jack Taylor

I've been in the residential building business for 20 years. My company started using pneumatic nailers in 1979. We suffered our first injury within 24 hours of purchasing the tools.

A two-man crew was framing a wall on the floor. After nailing the studs to the shoe plate, they moved to the other side to nail the top plate. One man was nailing, the other was aligning the studs and holding them in place, as you sometimes need to do when the studs are slightly twisted. The nail hit a knot in the top plate, causing the point to turn and come out of the plate, catching the man holding the stud in the fleshy muscle between thumb and forefinger.

ED ALLEN

To reduce nail-gun injuries, wear eye protection and have stable footing.

Two weeks later, the same two carpenters had the same accident. This time, however, the plate split away and the nail left the wood and lodged in the carpenter's hand. Both workers left the site to drive to the nearest emergency room, where a doctor used needle-nose pliers to pull the nail out.

There was no permanent damage, but both workers lost time the day the accident happened, and the injured worker had a very sore thumb for about a week. Actually, he was lucky that day — the nail could have split out of that stud and struck him in the eye.

What carpenters need to realize is that you can't use manual nailing techniques with power equipment. The rules are different for air tools. This is especially true for smaller air nailers, like trim guns and finish nailers.

For example, about two years ago, while installing door trim, a worker was attempting to align molding so he could pin it with a trim nailer. He thought his fingers were far enough away to be safe, but the nail penetrated the jamb, took a turn, and poked out the other side. It stuck in his thumb about 1/2 inch deep. Again, there was no permanent injury and no infection — just a very sore thumb.

The same poor habits make roofing guns dangerous. We usually run a two-man shingling crew; one man aligns the shingles while the other nails them in place. The rhythm of the work is such that the nailer tends to hold his finger on the trigger — a bad habit that's hard to break. We've seen plenty of misfires, but so far we've been lucky to have no injuries.

We are currently developing a "toolbox talks" safety program for all of our equipment. We've made it the job foreman's responsibility to train new hires and summer help. By company policy, new laborers are not allowed to use power or air tools for their first two weeks on the job.

Jack Taylor owns and operates Broadline Construction Inc. in Montrose, Pa. He has been using pneumatics since 1979.

continued

If this collection of stories starts you thinking about beefing up your safety efforts, rest assured that there are resources available to help you, as well as models to follow.

The Voice of Experience

One builder who has adopted a comprehensive approach to safety is Arizona framing contractor Mike Davis. In his business, he has to. With 70 house framers in the field, Davis has enough accident stories to fill a book.

For instance? "Well," says Davis, "there was the time we were building some apartments, and we had a new employee laying floor decking." The carpenter had laid the floor deck, but had left a 36-inch piece hanging off the edge. So he snapped a line, fetched his circular saw, and cut off the projecting piece — while his weight was resting on it. Luckily for him, he only fell one story, and he was all right. "That guy couldn't understand why we fired him," says Davis. "But like I told him, it was for his own good. I didn't want him to get killed."

Another new carpenter, Davis relates, was cutting a piece of plywood and wanted to make sure his blade was set deep enough. "So he reached under to feel it while he was cutting. Darn near cut off four fingers."

Davis's favorite story is about another new employee who was furring down a kitchen ceiling. Standing on a short ladder, the man lost his balance. But this carpenter was also a martial arts student. So instead of just falling down, he tried a "helicopter spin move" he'd been learning. "He ruptured a disk in his spine and was in traction for 45 days," says Davis. "It cost my insurance company a bundle. That man had been on the job less than an hour before he went to the hospital."

True believer. Stories like these, Davis says, illustrate a point: He believes that 90% of job-site accidents are caused by unsafe actions, not unsafe conditions. "Most injured workers shouldn't have gotten hurt, but they did something stupid," Davis claims. But he isn't laughing at the carpenters who've been hurt — after all, he says, "I've got a bad scar on my own thigh from the time I spaced out with a wormdrive saw." Instead, his company works hard to prevent injuries. "I've become a believer in safety programs. We have safety meetings and a safety newsletter."

Inexperience and Complacency

Regina Solomon, who directs safety education efforts for the National Association of Home Builders (NAHB), says, "Unsafe acts versus unsafe conditions has been a buzzword in the safety industry since way back when." But, she says, employers can reduce both. It's true that workers can make mistakes: "There are significant statistics that show a high rate of injury among new employees — not just new in the industry, but also people who are new to that job or that company," says Solomon. "But we also find a lot of injuries among people who have gotten so used to the hazards they work with that they take them for granted." That's why an effective safety program can't just be about equipment. It must also address the inexperience of new employees, and counter the complacency among the old hands.

"It's easy to see the financial impact of accidents when your insurance rates go up, but the untraceable costs of injuries have even more impact — things like loss of productivity and the cost of hiring and training new employees."

Why a Safety Program?

Solomon says there are several strong reasons for contractors to focus on safety. OSHA inspectors are an ever-present concern for the larger NAHB members; but even smaller builders, who are much less likely to see an OSHA inspector, pay a steep price for sloppy safety practices. "It's easy to see the financial impact of accidents when your insurance rates go up," says Solomon, "but the untraceable costs of injuries have even more impact — things like loss of productivity, the effect on morale, and the cost of hiring and training new employees."

To Mike Davis, the insurance payoff is real, not theoretical. "I just had a 50¢ [per hour per worker] reduction in my comp insurance because my experience factor went down," he reports. "Our safety plan has had a direct impact." To earn that kind of insurance cut, Davis's company works hard to avoid minor injuries as well as major ones: "A series of small claims can cost you more than a big claim," he points out.

Solomon says insurance companies can be a big help in the effort to prevent job-site injuries. Most workers comp carriers will send a "loss control specialist" to your job site to help you identify and avoid risks. "You're paying for that service whether you use it or not," she points out. While not all insurers are equally helpful, Solomon says reports from around the country indicate that "most of the insurance company responses are very positive." If your insurance carrier doesn't cooperate, Solomon advises shopping around for a better company. "If your carrier is cheaper but won't provide that service, they may not really be more economical."

One Size Doesn't Fit All

Through Solomon's office, NAHB provides workbooks and seminars that teach contractors how to establish a formal safety program. But she says each company's program must be unique. You don't have to build the way the guy down the street does, she observes, and your safety plan doesn't have to be like his either.

"Our safety program manual is a shell. It is not a fill-in-the-blank thing," Solomon explains. "You are going to have to put it into practice on an ongoing basis, so we stress that you have to know the reasons behind everything you do."

Builder Mike Davis echoes that principle. According to Davis, the heart of a working safety program is guidelines and principles, rather than specific rules. "There are so many different situations, if you had a rule for each one you'd end up with a book as thick as the Yellow Pages." Many years after he started it, his safety program is still evolving. "You can't just stick it in a nice binder and put it on the shelf," he says. "We work on it all the time."

One common element holds true across the board: For a safety program to work, the boss has to believe in it — and follow it. "If people take nothing else away from one of our seminars, says Solomon, we want them to take this: Follow your own rules." Mike Davis agrees: "If your employees think you don't care, they won't care." ■