

# MANUAL SWING BARRIER GATE INJURIES

*By Michael Panish, Door & Gate Expert Witness*

**MANUAL SWING BARRIER GATES – More dangerous than you would think. Why have so many injuries occurred? What are the reasons why these innocuous common devices have become life changing instruments of despair?**



Over the past several years I have been retained to offer expert opinions regarding barrier arm injuries. Many people have become injured from unrestrained pivoting barrier arms that are used to stop access into parking lots, pedestrian or vehicular paths or driveways. Some of these injuries have resulted in fatalities due to the ends of these barrier arms puncturing windshields of the cars as occupants of these cars were instantly and abruptly impacted. The injuries occurred to both the driver and passengers.



## **WHY DO THESE INJURIES OCCUR?**

These horrifying injuries are typically the result of inappropriate or missing devices that should have been part of the barrier arm fabrication and installation. Padlocks and chains that are used to connect mating arms are very effective in controlling manual swinging gates and are low in cost but are often not

utilized. In some cases, the safety devices originally fabricated into the arm design have failed or been vandalized when unauthorized users damaged the components to enter a restricted area.

Most of the barrier arms involved in an injury incident that I have inspected had non-functioning limiting devices or did not have those devices engaged or in use at the time of the injury incident. In other claims, authorized but untrained users failed to properly secure these gates and due to windy conditions, the arms swung into the path of travel of a vehicle prior to or as it was entering a parking lot area. Serious blunt force injuries from these swinging barricades are commonplace and associated deaths are shockingly high.

Injuries due to these untethered barriers have occurred on inclined driveways where a vehicle has crested a road only to have the metal arm abruptly enter the vehicle passenger compartment. In other cases, an incorrectly restrained swinging arm placed at a crossing entry or exit point of a parking area has inflicted life threatening injuries on occupants of cars, trucks and golf carts.

On pedestrian, motorcycle, snowmobile and bicycle pathways newly installed barrier arms have caused severe injuries to long time pathway users when cross pathway arms have been encountered as a complete surprise without any warnings.

### **WHEN DO THESE INJURIES OCCUR?**

These unseen obstacles are like booby traps that have killed pedestrians, motorcycle riders, snowmobilers, bicyclists and have destroyed motor vehicles and inflicted life-threatening injuries to their occupants when bluntly encountered in the dark. Many injuries occur in broad daylight as the end of these barrier arms present such a small visual profile that a driver of a car, biker, cyclist or pedestrian cannot discern the end of the barrier arm from the surrounding terrain.

Sometimes the failure to see these pathway obstructions is the result of an unpainted condition. Sometimes the barrier arm is intentionally painted to blend into the surroundings so that it does not appear as an eye sore in a natural setting. Other times unrestrained arms swing directly into the path of travel without warning due to wind or rain forces.

### **FAILURE TO PROPERLY SECURE THE BARRIER ARM**

In some claims the pivot pole that mounts and grounds the barrier arm is out of plumb and gravity moves the unrestrained barrier arm out of a fully open position. Early American sailing ships often placed cabin door frames out of plumb to keep cabin doors closed without any mechanical devices. The deferred or damaged out of level pivot pole causes the gate arms to swing when unrestrained. The out of plumb pivot point acts much like the ships door frame that is inclined. This along with other forces causes barrier arms to move and not always in the desired fully open or fully closed direction. Lack of oversight and maintenance of many barrier arms can lead to dangerous conditions that have injured many people.

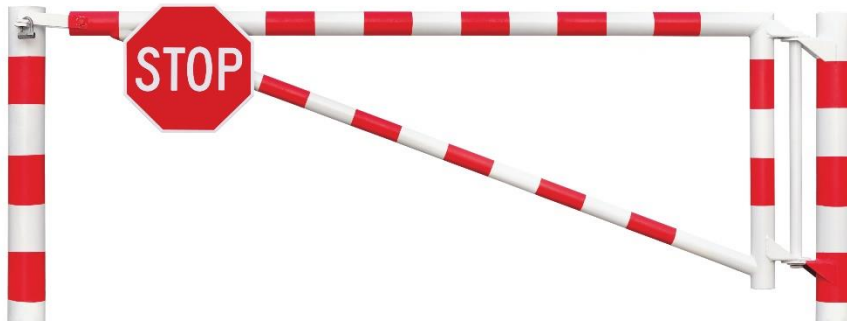


In general, the unsecured condition of these swinging gates has existed due to intentional abuse and vandalism, design and fabrication defects or deferred conditions due to lack of maintenance and repair.

## AN IMPACT CAN HAPPEN WITH NO ADVANCE WARNING

Impacts associated with an untethered barrier arm have caused car roofs and windshields to be sheared completely off a moving vehicle. Front and rear side glass and rear windshield windows of vehicles and some trucks have been impaled as a result of an unrestrained moving barrier arm. Motorcycle and bicyclists have been struck due to the unseen obstruction as they are riding along an established and familiar pathway that suddenly has a new barrier arm installed. Joggers have become injured as a result of the sudden appearance of a barrier arm as they are running along a pedestrian path that had a newly installed swing arm that was unrestrained and lacked any visual differences from the surrounding area.

Barrier arm injuries and deaths have occurred on public and private properties. They seem to be an unpredictable occurrence, but actually are the result of negligent management of these devices. In many cases there are no advance warnings placed to alert pedestrians, bikers or vehicles of the potential encounter.



If a newly installed cross pathway barrier arm was painted or taped with reflective distinguishing markings to differentiate the arm from the surrounding location, many of these serious injuries could be avoided.

When warning signage has been placed in advance of some new gate locations those signs have not always been visible to pathway users.

In most claims, the protrusion or sudden appearance of a barrier arm is unexpected and unpredictable leaving no time for the future injured party to react and take the needed action to avoid contact with the obstruction.



## MAINTENANCE & REPAIRS TO PROTECT THE GENERAL PUBLIC

Owners or property managers that use these types of barrier arms to secure locations often fail to make needed repairs to damaged restraint mechanisms that are critical to the safety of the public. They pay little attention to the barrier arms and think that if they are placed in an open or closed position without restraint will stay in those positions. In one recent case the owner of the property thought that the barrier arm was so rusted into position that it would not swing freely. For that reason alone, he did not do anything to secure the movement of the barrier arm, and a woman suffered life threatening head and neck injuries as a result of his inattention. Vandalism that occurs in public and private locations creates dangerous deferred conditions that have led to serious and fatal injury incidents. Children playing upon these arms, using them like a public park ride often climb onto these swing arms and when through playing on them have left them in a position that has become a dangerous condition to others that are unaware that the barrier arm is in their path of travel.

Sometimes newly installed barrier arms are placed without any restraints as owners position these arms from kits that they purchased on the internet. Some owners or managers do not recognize the potentially dangerous condition that these unrestrained swing arms can create. In other cases, professional installers failed to properly design and fabricate an appropriate locking mechanism to limit the travel of these pivoting products.

There are many methods that can be used to secure barrier arms so that they remain in an intended fixed position. Most of these methods are inexpensive to install or retrofit. Maintenance and observation by the owner or management of the property where these manual barrier arms are installed is essential to ensure the safety of the general public.

Below are a few example photos showing types of restraints that are considered industry accepted devices to positively lock the position of swinging barrier arms.



## **SUMMARY**

Manual Barrier Gate injuries occur frequently. These injuries are often the result of deferred maintenance and lack of attention. Missing padlocks, chains or other retaining hardware are inexpensive and easy to replace yet most injuries occur because the manager or owner of the property has failed to pay any attention to the swing arm restraints. The property owner that has an installed swing arm has a duty to protect the safety of all invitees onto the property. Failing to maintain any moving parking lot control is negligent and can result in a life-threatening injury or death.

For further information regarding requirements for manual swing vehicle barrier gates, parking control arms, and other access injury issues such as overhead and sliding gates contact Sharon at 888-902-4272 and visit [www.ConstructionWitness.com](http://www.ConstructionWitness.com). If you would like to discuss a case with Mike Panish, he will speak to you immediately. He has been retained on over 1,500 cases to date since the year 2000 and has been the retained expert on manual barrier gates and parking control arm cases across the country. Mr. Panish has been called upon to discuss installation conditions prior to new construction and help the owner determine the best way to accomplish their desired goals.

Michael Panish is the nationally recognized and first choice expert for all types of door, gate, and hardware injuries. He provides expert services for both plaintiff and defense and has over 35 years of practical hands-on experience in installation and fabrication of parking lot and barrier arm systems. He offers expert services for manual and automatic gates and door systems of all makes and manufacture.