

DYNAMICS OF THE CRASH

CAR CRASHES INVOLVE THREE COLLISIONS:

IN THE FIRST COLLISION:

- (1) THE VEHICLE STRIKES AN OBJECT.**
- (2) THE VEHICLE SLOWS DOWN AND BEGINS TO ABSORB SOME OF THE IMPACT.**
- (3) THE VEHICLE IS DAMAGED.**
- (4) WITHIN 1/10 OF A SECOND, THE VEHICLE, IN A HEAD ON CRASH, COMES TO A COMPLETE STOP.**

IN THE SECOND COLLISION:

- (1) 1/50 OF A SECOND AFTER THE CAR HAS STOPPED THE SECOND OR HUMAN COLLISION BEGINS.**
- (2) AN UNRESTRAINED DRIVER OR PASSENGER SLAMS INTO THE DASHBOARD, STEERING WHEEL OR WINDSHIELD.**
- (3) WITHOUT PROPER PROTECTION DURING A CRASH, YOU CAN BE SERIOUSLY INJURED BY BEING THROWN INTO OTHER PEOPLE IN THE CAR OR INTO THE HARD SURFACES OF THE VEHICLE.**
- (4) IF EJECTED FROM THE VEHICLE YOU WILL BE INJURED DURING EJECTION AND FURTHER INJURED OUTSIDE THE VEHICLE.**

IN THE THIRD COLLISION:

- (1) THE BODY STOPS MOVING - ORGAN COLLISION OCCURS.**
- (2) HOLLOW ORGANS, SUCH AS THE LUNGS AND GREAT VESSELS MAY RUPTURE FROM COMPRESSION.**
- (3) SOLID ORGANS, SUCH AS THE BRAIN, LIVER OR SPLEEN MAY BE TORN FROM THEIR ATTACHMENTS, FRACTURED OR BRUISED FROM SUDDEN DECELERATION.**
- (4) ORGAN COLLISION IS THE LEAST OBYIOUS, BUT THE MOST DEADLY.**

CRASH FORCES ARE DETERMINED BY TWO FACTORS, THE VEHICLE'S WEIGHT AND ITS SPEED. THE FORCE OF THE CRASH INCREASES AS THE VEHICLE INCREASES ITS SPEED.

DYNAMICS OF CRASHES INVOLVING CHILDREN:

DUE TO THEIR SHAPE AND SIZE, CHILDREN REACT DIFFERENTLY THAN ADULTS IN A CRASH. BECAUSE OF THEIR HIGH CENTER OF GRAVITY, AND DISPROPORTIONATELY HEAVIER HEADS, CHILDREN ARE EXTREMELY SUSCEPTIBLE TO INJURY IN AUTOMOBILE CRASHES. OFTEN, THEY DO NOT BENEFIT FROM THE ENERGY ABSORBING PARTS OF THE AUTOMOBILE INTERIOR AND THEY BECOME FLYING MISSILES IN A CRASH. THIRTY-FOUR PERCENT OF ALL INJURIES TO CHILDREN IN CAR CRASHES ARE INJURIES TO THE HEAD AND FACE, CAUSING BRAIN DAMAGE, PERMANENT DISFIGUREMENT, EPILEPSY, OR DEATH.

CONSIDER:

- ◇ IN A 30 MPH COLLISION, A 10 POUND BABY NOT BUCKLED IN TO A CAR SEAT WILL BE THROWN TOWARD THE DASH, WINDSHIELD OR OTHER SURFACE WITH THE FORCE OF 300 POUNDS. IN THE SAME CRASH, A 100 POUND WOMEN, IF UNBELTED, BECOMES A 3,000 POUND FORCE, MORE THAN ENOUGH TO CRUSH A CHILD IN HER ARMS AGAINST A DASHBOARD.

◇ BECAUSE THEIR HEADS ARE PROPORTIONATELY HEAVIER THAN THE REST OF THEIR BODIES, CHILDREN TEND TO TRAVEL HEADFIRST INTO THE VEHICLE'S HOSTILE INTERIOR.

◇ CHILDREN ARE MUCH MORE LIKELY TO BE INJURED OR EJECTED WHEN TRAVELING UNSTRAINED IN THE CARGO SECTION OF A STATION WAGON OR HATCHBACK VEHICLE. THERE DOESN'T NECESSARILY HAVE TO BE A COLLISION WITH ANOTHER CAR. "PANIC BRAKING" FOR AN UNEXPECTED ANIMAL, CHILD, ETC. ON THE STREET CAN SEND A YOUNG CHILD HURLING TOWARD THE DASHBOARD WITH DEADLY FORCE.

◇ THE BODY OF A SMALL CHILD MAY BE MORE RESILIENT THAN THAT OF AN ADULT, BUT THIS DOES NOT LESSEN THE DANGER. THIS CONCEPT DOES NOT APPLY TO THEIR HEADS OR VITAL ORGANS, THE AREAS OF GREATEST VULNERABILITY TO A CHILD.