

When kids get concussions

New CDC guidelines for treatment stress immediate rest over X-rays

The Associated Press

CHICAGO — New children's concussion guidelines from the U.S. government recommend against routine X-rays and blood tests for diagnosis and reassure parents that most kids' symptoms clear up within one to three months.

Signs of potentially more serious injuries that may warrant CT imaging scans include vomiting, unconsciousness and severe, worsening headaches, according to the guidelines released Tuesday.

The guidelines from the U.S. Centers for Disease Control and Prevention are the first broad evidence-based recom-

mendations for diagnosing and treating children's concussions, the researchers say. They evaluated 25 years of scientific research on managing concussions in children and chose procedures with the strongest evidence of benefit.

The American Academy of Neurology has similar evidence-based guidelines, but strictly for sports concussions in child and adult athletes and focused on restricting return to play. The American Academy of Pediatrics also has guidance for managing sports concussions, and for returning to school after a concussion.

The CDC's guidelines are for concussions from all

causes, including falls, sports and car accidents. They recommend rest from physical and mental activity including school and sports immediately after a concussion, gradually resuming normal routines.

CDC brain injury specialist Matthew Breiding, a co-author of the guidelines, said parents should tell their kids to report any concussion symptoms right away. "Some children and teens think concussions aren't serious or worry that if they report a concussion they will lose their position on the team or look weak. Remind them that it's better to miss one game than the whole season," he said.

The guidelines could contribute to a "personalized approach to state-of-the-art care," according to a journal editorial by brain injury experts at the Medical College of Wisconsin and Univer-

sity of California, San Francisco.

Concussions, also called mild traumatic brain injury, are caused by a bump or jolt to the head. The impact causes the brain to bounce or twist, potentially damaging brain cells. Repeated concussions have been linked with a debilitating brain disease found in autopsies on some retired football players.

Breiding said many people mistakenly believe that "you need to lose consciousness or be 'knocked out' in order to have a concussion."

Headaches, dizziness, sensitivity to light or noise and sleep problems are among other possible symptoms that experts say warrant medical attention.

The guidelines include:

- X-rays and CT scans aren't effective at detecting concussions. They are sometimes done if doctors suspect a skull

fracture or brain bleeding, but CT scans are preferred if a serious injury seems likely. Families should be told of potential risks from CT scans.

- Blood tests for detecting concussion haven't been proved to work and shouldn't be done outside of research.

- Most children's symptoms clear up within one to three months but recovery varies and can be delayed in kids who've had previous concussions.

- Teens, kids with learning difficulties and those with mental illness all tend to recover more slowly than young children.

- Rest, the main treatment, is recommended for the first three days. Inactivity beyond that may worsen symptoms.

- Children with undiagnosed concussions are at risk for another one and longer recovery times.

New Calif. bridge gets quake data sensors

The Associated Press

LONG BEACH, Calif. — A replacement bridge being built at the nation's second-busiest port isn't just a crucial route for cargo trucks and Southern California commuters — it's a concrete-and-steel science experiment for engineers and seismologists.

The bridge, which will stretch 8,800 feet over the Port of Long Beach, will have about 75 seismic sensors that will measure the forces imparted on the span when one of several nearby faults sets off an earthquake. It will replace the Gerald Desmond Bridge, though it's unclear if it will retain that name.

The new bridge is due to open next year.

"New bridges don't come along very often, so it's exciting," said John Parrish, head of the California Geological Survey. His agency's Strong Motion Instrumentation Program will be among those crunching the information the sensors capture. The data will be added to the state's database of earthquake knowledge.

California's bridges and other infrastructure have been outfitted since the 1970s with quake sensors called accelerometers. The eastern span replacement of the San Francisco-

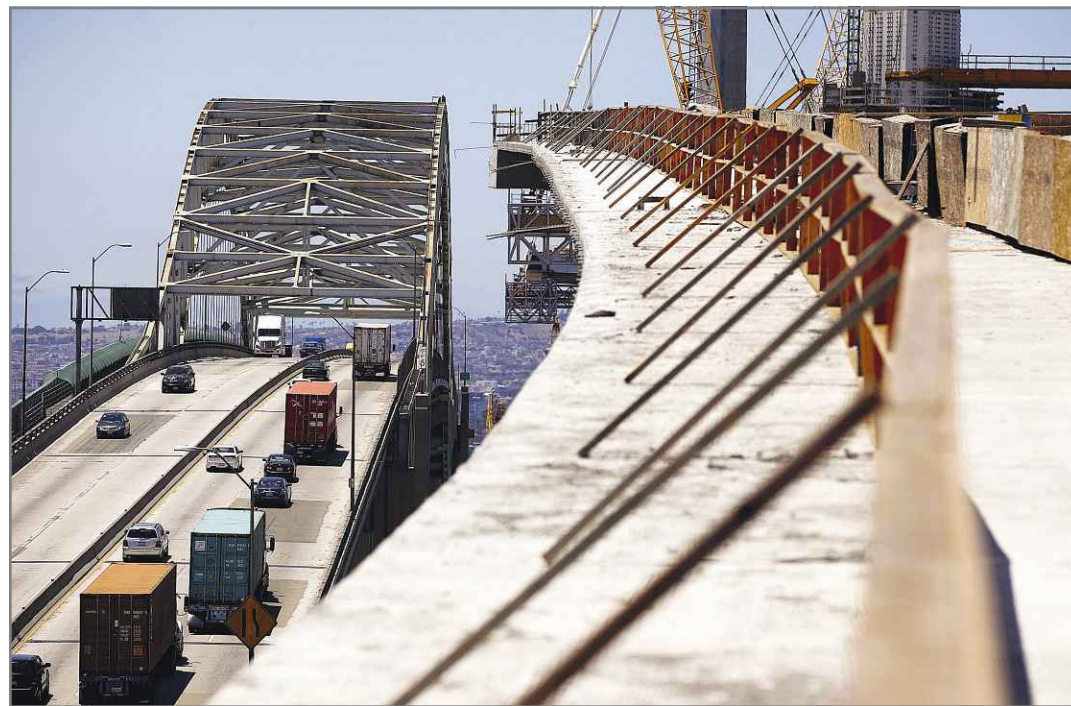
Oakland Bay Bridge that opened in 2013 has more than 200.

But the new Long Beach span, south of Los Angeles, will be the first time the sensors have been incorporated into the design of a California bridge from day one, said Duane L. Kenagy, an engineer and the port's interim deputy executive director.

The original bridge has taken a "pretty good beating" since it was built in 1968, Kenagy said. Evidence of that is the netting — called "diapers" — recently placed underneath to capture hunks of concrete that regularly break away. The roadway is "reaching the end of its natural life" but is considered safe for traffic until the new bridge opens, he said.

About 15 percent of all containerized cargo entering the United States travels over the span daily, and it's a key artery for cars going between the city of Long Beach and San Pedro, a working-class waterfront neighborhood on the southern edge of Los Angeles.

The nearly \$1.5 billion replacement is historic for the built-in seismology and because it's the first cable-stayed vehicle bridge in California. Cable-stayed bridges are distinct from more common suspension bridges in that the main



Traffic on the old Gerald Desmond Bridge in Long Beach, Calif., next to the replacement being built

span deck is entirely supported by cables connected to the twin 515-foot towers. It makes for a particularly sturdy design that's been tested to withstand powerful earthquakes, or a terrorist bombing.

"You just can't knock one of these things down by knocking out one or two cables," Parrish

said. The design, popular in Asia and parts of Europe, is catching on in the U.S. as larger construction machinery and new high-tech materials make them less costly and easier to build.

Designed to last 100 years, the new bridge has a higher clearance for larger cargo ships and elastic "points of isolation"

that enable segments to move independently without damaging other sections. Joints and bearings are designed to break under stress and are easily replaceable to get the bridge reopened quickly after a violent shaking shuts it down.

The old bridge will be torn down.