

**FOR PUBLICATION**

**UNITED STATES COURT OF APPEALS  
FOR THE NINTH CIRCUIT**

AMERICAN BEVERAGE  
ASSOCIATION; CALIFORNIA  
RETAILERS ASSOCIATION,  
*Plaintiffs-Appellants,*

and

CALIFORNIA STATE OUTDOOR  
ADVERTISING ASSOCIATION,  
*Plaintiff,*

v.

CITY AND COUNTY OF SAN  
FRANCISCO,  
*Defendant-Appellee.*

No. 16-16072

D.C. No.  
3:15-cv-03415-EMC

2 AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO

---

AMERICAN BEVERAGE  
ASSOCIATION; CALIFORNIA  
RETAILERS ASSOCIATION,  
*Plaintiffs,*

and

CALIFORNIA STATE OUTDOOR  
ADVERTISING ASSOCIATION,  
*Plaintiff-Appellant,*

v.

CITY AND COUNTY OF SAN  
FRANCISCO,  
*Defendant-Appellee.*

No. 16-16073

D.C. No.  
3:15-cv-03415-EMC

OPINION

Appeals from the United States District Court  
for the Northern District of California  
Edward M. Chen, District Judge, Presiding

Argued and Submitted En Banc September 25, 2018  
Pasadena, California

Filed January 31, 2019

Before: Sidney R. Thomas, Chief Judge, and Dorothy W.  
Nelson, Susan P. Graber, William A. Fletcher, Marsha S.  
Berzon, Sandra S. Ikuta, Mary H. Murguia, Morgan  
Christen, Jacqueline H. Nguyen, Andrew D. Hurwitz,  
and John B. Owens, Circuit Judges.

---

AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO 3

---

Opinion by Judge Graber;  
Concurrence by Judge Ikuta;  
Concurrence by Judge Christen;  
Concurrence by Judge Nguyen

---

### SUMMARY\*

---

#### Civil Rights

The en banc court reversed the district court's denial of a preliminary injunction and remanded in an action challenging the City and County of San Francisco's Sugar-Sweetened Beverage Warning Ordinance, which requires health warnings on advertisements for certain sugar-sweetened beverages.

Plaintiffs, the American Beverage Association, California Retailers Association, and California State Outdoor Advertising Association, argued that the Ordinance violated their First Amendment right to freedom of speech. The en banc court, relying on *National Institute of Family & Life Advocates v. Becerra* (NIFLA), 138 S. Ct. 2361 (2018), concluded that Plaintiffs will likely succeed on the merits of their claim that the Ordinance is an "unjustified or unduly burdensome disclosure requirement[] [that] might offend the First Amendment by chilling protected commercial speech." *Zauderer v. Office of Disciplinary Counsel*, 471 U.S. 626, 651 (1985). The en banc court determined that the remaining

---

\* This summary constitutes no part of the opinion of the court. It has been prepared by court staff for the convenience of the reader.

---

4 AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO

---

preliminary injunction factors also weighed in Plaintiffs' favor.

Concurring, Judge Ikuta stated that because the Associations had shown a likelihood of prevailing on the merits and because the other factors for granting a preliminary injunction weighed in the Associations' favor, she agreed with the majority's conclusion that the district court abused its discretion by denying the Associations' motion for a preliminary injunction. But Judge Ikuta stated that because the majority failed to apply *NIFLA*'s framework for analyzing when government-compelled speech violates the First Amendment, she dissented from the majority's reasoning.

Concurring in part and concurring in the judgment, Judge Christen, joined by Chief Judge Thomas, agreed with the majority that *Zauderer*'s framework applied to the government-compelled speech at issue in this case. Judge Christen also agreed that the district court's decision must be reversed, but she would not reach the issue the majority relied upon. Judge Christen would reverse because the City and County of San Francisco could not show that the speech it sought to compel was purely factual.

Concurring in the judgment, Judge Nguyen disagreed with the majority's expansion of *Zauderer*'s rational basis review to commercial speech that is not false, deceptive, or misleading. Judge Nguyen stated that because the majority reached the right result under the wrong legal standard, she respectfully concurred only in the judgment.

---

AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO 5

**COUNSEL**

Richard P. Bress (argued), George C. Chipev, Michael E. Bern, and Melissa Arbus Sherry, Latham & Watkins LLP, Washington, D.C.; Marcy C. Friedman, Latham & Watkins LLP, San Francisco, California; for Plaintiffs-Appellants.

Jeremy Michael Goldman (argued) and Wayne Snodgrass, Deputy City Attorneys; Dennis J. Herrera, City Attorney; Office of the City Attorney, San Francisco, California; for Defendant-Appellee.

Wencong Fa and Meriem L. Hubbard, Pacific Legal Foundation, Sacramento, California, for Amicus Curiae Pacific Legal Foundation.

Robert Corn-Revere, Ronald G. London, Davis Wright Tremaine LLP, Washington, D.C., for Amicus Curiae The Association of National Advertisers, Inc.

Warren Postman and Katheryn Comerford Todd, Litigation Center Inc., Washington, D.C.; Jeremy J. Broggi, Megan L. Brown, and Bert W. Rein, Wiley Rein LLP, Washington, D.C., for Amicus Curiae Chamber of Commerce of the United States of America.

Mark S. Chenoweth, Cory L. Andrews, and Richard A. Samp, Washington Legal Foundation, Washington, D.C., for Amicus Curiae Washington Legal Foundation.

Allison M. Zieve, Julie A. Murray, and Scott L. Nelson, Public Citizen Litigation Group, Washington, D.C., for Amicus Curiae Public Citizens, Inc.

---

6 AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO

---

Sophia TonNu, Thomas Bennigson, and Seth E. Mermin, Public Good Law Center, Berkeley, California; Sabrina Adler, Ian McLaughlin, and Benjamin D. Wing, Changelab Solutions, Oakland, California, for Amici Curiae American Heart Association, American Academy of Pediatrics, California, California Academy of Family Physicians, California Chapter of the American Association of Clinical Endocrinologists, California Endowment, California Medical Association, California Pan-Ethnic Health Network, Changelab Solutions, Community Health Partnership, Crossfit Foundation, Diabetes Coalition of California, Healthy Food America, Latino Coalition for a Healthy California, National Association of Chronic Disease Directors, National Association of Local Boards of Health, Network of Ethnic Physician Organizations, Nicos Chinese Health Coalition, Prevention Institute, Public Health Institute, Public Health Law Center, San Francisco Bay Area Physicians for Social Responsibility, San Francisco Community Clinic Consortium, San Francisco Medical Society, Southern California Public Health Association, and Strategic Alliance.

Rachel Bloomekatz, Gupta Wessler PLLC, Washington, D.C., for Amici Curiae American Cancer Society Cancer Action Network, Public Health Law Center, Action on Smoking & Health, African American Tobacco Control Leadership Council, American Lung Association, American Thoracic Society, Americas for Nonsmokers' Rights, Campaign for Tobacco-Free Kids, NAATPN, and Truth Initiative Foundation.

Maia C. Kats, Center for Science in the Public Interest, Washington, D.C., for Amicus Curiae Center for Science in the Public Interest.

---

AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO 7

Peter C. Tolsdorf and Linda E. Kelly, Manufacturers' Center for Legal Action, Washington, D.C.; J. Michael Connolly, Thomas R. McCarthy, and William S. Consovoy, Consovoy McCarthy Park PLLC, Arlington, Virginia; for Amicus Curiae National Association for Manufacturers.

Deborah R. White, Retail Litigation Center Inc., Arlington, Virginia; Gabriel K. Gillett, Jenner & Block LLP, Chicago, Illinois; Adam G. Unikowsky, Jenner & Block LLP, Washington, D.C., for Amicus Curiae Retail Litigation Center.

Catherine E. Stetson, Hogan Lovells US LLP, Washington, D.C., for Amicus Curiae Grocery Manufacturers Association.

---

**OPINION**

GRABER, Circuit Judge:

Plaintiffs American Beverage Association, California Retailers Association, and California State Outdoor Advertising Association challenge Defendant City and County of San Francisco's Sugar-Sweetened Beverage Warning Ordinance, City & Cty. of S.F., Cal., Bd. of Supervisors Ordinance No. 100-15, § 1 (June 16, 2015). The Ordinance requires health warnings on advertisements for certain sugar-sweetened beverages ("SSBs"). Plaintiffs argue that the Ordinance violates their First Amendment right to freedom of speech. Relying on the United States Supreme Court's decision in *National Institute of Family & Life Advocates v. Becerra* ("*NIFLA*"), 138 S. Ct. 2361 (2018), we conclude that Plaintiffs will likely succeed on the merits of their claim that the Ordinance is an "unjustified or unduly

---

8 AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO

---

burdensome disclosure requirement[] [that] might offend the First Amendment by chilling protected commercial speech.” *Zauderer v. Office of Disciplinary Counsel*, 471 U.S. 626, 651 (1985). The remaining preliminary injunction factors also weigh in Plaintiffs’ favor. We therefore hold that the district court abused its discretion by denying Plaintiffs’ motion for a preliminary injunction, and we reverse and remand.

#### FACTUAL AND PROCEDURAL BACKGROUND

In June 2015, Defendant enacted the Ordinance, which requires that certain SSB advertisements (“SSB Ads”) include the following statement:

WARNING: Drinking beverages with added sugar(s) contributes to obesity, diabetes, and tooth decay. This is a message from the City and County of San Francisco.

City & Cty. of S.F., Cal., Health Code art. 42, div. I, § 4203(a) (2015). An “SSB Ad” covers

any advertisement, including, without limitation, any logo, that identifies, promotes, or markets a Sugar-Sweetened Beverage for sale or use that is any of the following: (a) on paper, poster, or a billboard; (b) in or on a stadium, arena, transit shelter, or any other structure; (c) in or on a bus, car, train, pedicab, or any other vehicle; or (d) on a wall, or any other surface or material.



---

AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO 9

*Id.* § 4202. Under section 4202, though, an “SSB Ad” does not include advertising in or on: periodicals; television; electronic media; SSB containers or packaging; menus; shelf tags; vehicles used by those in the business of manufacturing, selling, or distributing SSBs; or logos that occupy an area of less than 36 square inches. *Id.* The Ordinance defines “SSB” as “any Nonalcoholic Beverage sold for human consumption, including, without limitation, beverages produced from Concentrate, that has one or more added Caloric Sweeteners and contains more than 25 calories per 12 ounces of beverage.” *Id.* But “SSB” does not include drinks such as milk, plant-based milk alternatives, natural fruit and vegetable juices, infant formulas, and supplements. *Id.* The Ordinance provides detailed instructions regarding the form, content, and placement of the warning on SSB Ads, including a requirement that the warning occupy at least 20% of the advertisement and be set off with a rectangular border. *Id.* § 4203(b).

Defendant’s stated purpose in requiring the warning is, among other reasons, to “inform the public of the presence of added sugars and thus promote informed consumer choice that may result in reduced caloric intake and improved diet and health, thereby reducing illnesses to which SSBs contribute and associated economic burdens.” *Id.* § 4201. Failure to comply with the warning requirement can result in administrative penalties imposed by San Francisco’s Director of Health. *Id.* § 4204(a).

Plaintiffs sued to prevent implementation of the Ordinance. The district court denied Plaintiffs’ motion for a preliminary injunction. Concluding that Plaintiffs likely would not succeed on the merits of their First Amendment challenge, the district court held that the warning is not

---

10 AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO

---

misleading, does not place an undue burden on Plaintiffs' commercial speech, and is rationally related to a substantial governmental interest. But the court stayed implementation of the Ordinance pending this timely interlocutory appeal.

A three-judge panel of this court reversed the district court's denial of a preliminary injunction, *Am. Beverage Ass'n v. City & County of San Francisco*, 871 F.3d 884 (9th Cir. 2017). We then ordered that the case be reheard en banc, 880 F.3d 1019 (9th Cir. 2018).

#### JURISDICTION AND STANDARDS OF REVIEW

We have jurisdiction under 28 U.S.C. § 1292.

We review the denial of a preliminary injunction for abuse of discretion. *Harris v. Bd. of Supervisors*, 366 F.3d 754, 760 (9th Cir. 2004). A district court abuses its discretion if it rests its decision "on an erroneous legal standard or on clearly erroneous factual findings." *United States v. Schiff*, 379 F.3d 621, 625 (9th Cir. 2004) (internal quotation marks omitted). "We review conclusions of law de novo and findings of fact for clear error." *All. for the Wild Rockies v. Cottrell*, 632 F.3d 1127, 1131 (9th Cir. 2011) (internal quotation marks omitted).

#### DISCUSSION

A preliminary injunction is an extraordinary remedy that may be awarded only if the plaintiff clearly shows entitlement to such relief. *Winter v. Nat. Res. Def. Council, Inc.*, 555 U.S. 7, 22 (2008). "A plaintiff seeking a preliminary injunction must establish [1] that he is likely to succeed on the merits, [2] that he is likely to suffer irreparable harm in

---

AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO 11

the absence of preliminary relief, [3] that the balance of equities tips in his favor, and [4] that an injunction is in the public interest.” *Id.* at 20.

A. *Test for Analyzing a Claim of Compelled Speech*

We begin by considering Plaintiffs’ likelihood of success on the merits of their First Amendment challenge. The First Amendment provides that “Congress shall make no law . . . abridging the freedom of speech.”<sup>1</sup> U.S. Const. amend. I. Its protection is broad, and the Supreme Court has “been reluctant to mark off new categories of speech for diminished constitutional protection.” *NIFLA*, 138 S. Ct. at 2372 (internal quotation marks omitted). But *NIFLA* also acknowledged that the Court has “applied a lower level of scrutiny to laws that compel disclosures in certain contexts,” including cases analyzing the required disclosure of “factual, noncontroversial information in . . . ‘commercial speech.’” *Id.*

The Ordinance regulates commercial speech and compels certain disclosures.<sup>2</sup> Therefore, in addressing Plaintiffs’ claim, we first determine what level of scrutiny applies. The parties dispute whether we should analyze the Ordinance’s compliance with the First Amendment under *Central Hudson Gas & Electric Corp. v. Public Service Commission*, 447 U.S.

---

<sup>1</sup> The Due Process Clause of the Fourteenth Amendment incorporates the First Amendment against the states. *Va. State Bd. of Pharmacy v. Va. Citizens Consumer Council, Inc.*, 425 U.S. 748, 749 n.1 (1976).

<sup>2</sup> Judge Ikuta’s special concurrence discusses at length a proposition that no one disputes: that the warning is compelled speech, requiring a First Amendment analysis.

---

12 AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO

---

557 (1980), or under *Zauderer*, 471 U.S. 626. We have discussed those two tests previously, stating that:

Under *Central Hudson*, the government may restrict or prohibit commercial speech that is neither misleading nor connected to unlawful activity, as long as the governmental interest in regulating the speech is substantial. 447 U.S. at 564. The restriction or prohibition must “directly advance the governmental interest asserted,” and must not be “more extensive than is necessary to serve that interest.” *Id.* at 566. Under *Zauderer* . . . , the government may compel truthful disclosure in commercial speech as long as the compelled disclosure is “reasonably related” to a substantial governmental interest. *Zauderer*, 471 U.S. at 651.

*CTIA—The Wireless Ass’n v. City of Berkeley*, 854 F.3d 1105, 1115 (9th Cir. 2017).<sup>3</sup>

In *NIFLA*, the Supreme Court applied the *Zauderer* test without deciding whether that test, in fact, applied. *NIFLA*, 138 S. Ct. at 2376–77. But before *NIFLA*, we examined a similar health and safety warning and held squarely that *Zauderer* provides the proper analytical framework for considering required warnings on commercial products:

---

<sup>3</sup> The Supreme Court vacated and remanded our opinion in *CTIA* for reconsideration in light of *NIFLA*. *CTIA*, 138 S. Ct. 2708 (2018). As will be evident from the text that follows, we reconsider relevant portions of *CTIA* here in light of *NIFLA* and see nothing in *NIFLA* that is inconsistent with those aspects of *CTIA* with which we agree in this opinion.

---

AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO 13

“[T]he government may compel truthful disclosure in commercial speech as long as the compelled disclosure is ‘reasonably related’ to a substantial governmental interest.” *CTIA*, 854 F.3d at 1115. We rejected the argument that intermediate scrutiny—as required by *Central Hudson*, 447 U.S. 557, for situations in which speech is restricted or prohibited—should govern. *CTIA*, 854 F.3d at 1115–17. We also rejected the argument that *Zauderer* applies only to situations in which the government requires disclosures to prevent consumer deception, pointing out that we were joining the holdings of several of our sister circuits. *Id.* at 1116–17 (citing *Am. Meat Inst. v. U.S. Dep’t of Agric.*, 760 F.3d 18 (D.C. Cir. 2014) (en banc); *Disc. Tobacco City & Lottery, Inc. v. United States*, 674 F.3d 509 (6th Cir. 2012); *N.Y. State Rest. Ass’n v. N.Y. City Bd. of Health*, 556 F.3d 114 (2d Cir. 2009); *Nat’l Elec. Mfrs. Ass’n v. Sorrell*, 272 F.3d 104 (2d Cir. 2001)).

*NIFLA* requires us to reexamine how we approach a First Amendment claim concerning compelled speech. But nothing in *NIFLA* suggests that *CTIA* was wrongly decided. To the contrary, *NIFLA* preserved the exception to heightened scrutiny for health and safety warnings. The Supreme Court made clear that it was not calling into “question the legality of health and safety warnings long considered permissible.” *NIFLA*, 138 S. Ct. at 2376.<sup>4</sup> *NIFLA* did not address, and a

---

<sup>4</sup> Judge Ikuta’s special concurrence reads this portion of *NIFLA* to mean that only certain health and safety warnings (those of ancient origin) are exempted from heightened scrutiny. But the most natural reading of this passage in the Court’s opinion is that required health and safety warnings, which have long been permitted, are still allowed. In this statement, the *NIFLA* majority was countering Justice Breyer’s dissent, which lists examples of such warnings, including both mandatory advice concerning seat belts and mandatory advice about the availability of a

---

14 AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO

---

*fortiori* did not disapprove, the circuits' precedents, including *CTIA*, which have unanimously held that *Zauderer* applies outside the context of misleading advertisements. *See CTIA*, 854 F.3d at 1116–17 (citing cases from the D.C., Second, and Sixth Circuits). In short, we reaffirm our reasoning and conclusion in *CTIA* that *Zauderer* provides the appropriate framework to analyze a First Amendment claim involving compelled commercial speech—even when the government requires health and safety warnings, rather than warnings to prevent the deception of consumers. *CTIA*, 854 F.3d at 1117. We therefore proceed to apply *Zauderer* to Defendant's required warning.

B. *Application of the Zauderer test*

The *Zauderer* test, as applied in *NIFLA*, contains three inquiries: whether the notice is (1) purely factual, (2) noncontroversial, and (3) not unjustified or unduly burdensome. A compelled disclosure accompanying a related product or service must meet all three criteria to be constitutional. *NIFLA*, 138 S. Ct. at 2372. Neither *NIFLA* nor any other Supreme Court precedent requires that we apply these criteria in any particular order. The *NIFLA* Court's analysis began with the question whether the notice was “unjustified or unduly burdensome.” *Id.* at 2377 (citing *Zauderer*, 471 U.S. at 651). By following the same sequence, we do not suggest that courts *must* begin by analyzing whether a disclosure requirement is unjustified or unduly

---

whooping cough vaccine, 138 S. Ct. at 2380–81. There is no indication that either of those required disclosures is of ancient origin or that the majority intended some health and safety warnings (if accurate, uncontroversial, and not unduly burdensome) to be precluded merely because the knowledge that the warnings convey is new.

---

AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO 15

burdensome, but we find it useful to begin with that prong here. Defendant has the burden of proving that the warning is neither unjustified nor unduly burdensome. *Ibanez v. Fla. Dep't of Bus. & Prof'l Regulation*, 512 U.S. 136, 146 (1994). On this preliminary record, Defendant has not carried its burden.<sup>5</sup>

Defendant's argument that the border and 20% size requirements adhere to the best practices for health and safety warnings is unpersuasive. We recognize that some tobacco and prescription warnings must occupy at least 20% of those products' labels or advertisements. *Am. Beverage Ass'n v. City & County of San Francisco*, 187 F. Supp. 3d 1123, 1138–39 (N.D. Cal. 2016). And Defendant's expert concluded that larger warnings are more effective. But the record here shows that a smaller warning—half the size—would accomplish Defendant's stated goals.

Defendant's expert cited and discussed a study that examined a warning similar to that required by the Ordinance.<sup>6</sup> That study used warnings covering only 10% of the image. The expert concluded that the cited study “provides empirical support that the message content and

---

<sup>5</sup> Contrary to Judge Ikuta's characterization, we do not preclude Defendant from arguing that the Ordinance survives heightened scrutiny. Concurrence at 28. Logically, though, if the warning does not meet a lower standard, it necessarily does not meet a higher standard. See *NIFLA*, 138 S. Ct. at 2377 (“Even under *Zauderer*, a disclosure requirement cannot be ‘unjustified or unduly burdensome.’” (quoting *Zauderer*, 471 U.S. at 651)).

<sup>6</sup> The study's warning read “Safety Warning: Drinking beverages with added sugar[s] contributes to obesity, diabetes, and tooth decay,” and included a border.

---

16 AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO

---

design of the San Francisco warning is associated [with] an improved understanding of health harms associated with overconsumption of SSBs and may reduce the purchase of SSBs—two of the primary objectives identified in the San Francisco ordinance.” The findings of that study thus undermine Defendant’s position, because the findings suggest that the Ordinance’s goals could be accomplished with a smaller warning. On this record, therefore, the 20% requirement is not justified when balanced against its likely burden on protected speech.

In addition, the argument that the Ordinance incorporates best practices does not respond to the First Amendment balancing test that we must apply. Although the disclosures in *NIFLA* were more onerous than the Ordinance’s disclosure, similar concerns are present here: Defendants have not shown that the contrasting rectangular border containing a warning that covers 20% of the advertisement does not “drown[] out” Plaintiffs’ messages and “effectively rule[] out the possibility of having [an advertisement] in the first place.” 138 S. Ct. at 2378 (internal quotation marks omitted). On this record, therefore, the 20% requirement is not justified and is unduly burdensome when balanced against its likely burden on protected speech.

To be clear, we do not hold that a warning occupying 10% of product labels or advertisements necessarily is valid, nor do we hold that a warning occupying more than 10% of product labels or advertisements necessarily is invalid. *See id.* (“We express no view on the legality of a similar disclosure requirement that is better supported or less burdensome.”). Rather, we hold only that, on this record, Defendant has not carried its burden to demonstrate that the Ordinance’s requirement is not “unjustified or unduly



---

AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO 17

burdensome.” *See id.* at 2377. The required warnings therefore offend Plaintiffs’ First Amendment rights by chilling protected speech. *See id.* at 2378 (“[The notice] imposes an unduly burdensome disclosure requirement that will chill [the speaker’s] protected speech.”).

The Supreme Court made clear in *NIFLA* that a government-compelled disclosure that imposes an undue burden fails for that reason alone. *Id.* at 2377. Indeed, the Court ended its own analysis with that holding. *Id.* at 2378. We need not, and therefore do not, decide whether the warning here is factually accurate and noncontroversial.

The remaining factors of the preliminary injunction test also favor an injunction. Because Plaintiffs have a colorable First Amendment claim, they have demonstrated that they likely will suffer irreparable harm if the Ordinance takes effect. *See Doe v. Harris*, 772 F.3d 563, 583 (9th Cir. 2014) (“A colorable First Amendment claim is irreparable injury sufficient to merit the grant of relief.” (internal quotation marks omitted)). Next, “[t]he fact that [Plaintiffs] have raised serious First Amendment questions compels a finding that . . . the balance of hardships tips sharply in [Plaintiffs’] favor.” *Cnty. House, Inc. v. City of Boise*, 490 F.3d 1041, 1059 (9th Cir. 2007) (internal quotation marks omitted). Finally, we have “consistently recognized the significant public interest in upholding First Amendment principles.” *Doe*, 772 F.3d at 583 (internal quotation marks omitted). Indeed, “it is always in the public interest to prevent the violation of a party’s constitutional rights.” *Melendres v. Arpaio*, 695 F.3d 990, 1002 (9th Cir. 2012) (internal quotation marks omitted).

In summary, Plaintiffs have met each of the requirements for a preliminary injunction. We therefore conclude that the

---

18 AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO

---

district court abused its discretion by denying Plaintiffs' motion.

**REVERSED and REMANDED.**

---

IKUTA, Circuit Judge, dissenting from most of the reasoning, concurring in the result:

In *National Institute of Family & Life Advocates v. Becerra (NIFLA)*, the Supreme Court provided a framework for analyzing First Amendment challenges to government-compelled speech. 138 S. Ct. 2361 (2018). Under this framework, a government regulation that compels a disclosure (like the San Francisco ordinance in this case) is a content-based regulation of speech, which is subject to heightened scrutiny under the First Amendment unless the *Zauderer* exception applies. The majority fails to follow this analytical framework and makes several crucial errors. I therefore dissent.

I

*NIFLA* broke new ground on several key issues. Although the Court has previously considered the constitutionality of government regulations requiring lawyers to disclose certain information in their advertisements, see *Zauderer v. Office of Disciplinary Counsel of Supreme Court of Ohio*, 471 U.S. 626, 650–51 (1985); see also *Milavetz, Gallop & Milavetz, P.A. v. United States*, 559 U.S. 229, 250–52 (2010); *Ohralik v. Ohio State Bar Ass'n*, 436 U.S. 447, 457–59 (1978), *NIFLA* is the first Supreme Court case to apply *Zauderer* to commercial speech more generally.

---

AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO 19

*NIFLA* considered the constitutionality of a California statute that required clinics that primarily served pregnant women to post government-drafted notices. *NIFLA*, 138 S. Ct. at 2368. State-licensed clinics were required to post a notice that stated: “California has public programs that provide immediate free or low-cost access to comprehensive family planning services (including all FDA-approved methods of contraception), prenatal care, and abortion for eligible women.” *Id.* at 2369 (referred to as the “licensed notice”). Unlicensed clinics were required to post a notice stating that the “facility is not licensed as a medical facility by the State of California and has no licensed medical provider who provides or directly supervises the provision of services.” *Id.* at 2370 (referred to as the “unlicensed notice”). Two crisis pregnancy centers, among other plaintiffs, brought suit, claiming that both the licensed and unlicensed notices violated their First Amendment rights.

*NIFLA* began by making two important contributions to First Amendment jurisprudence. First, in its consideration of the two government disclosure requirements, *NIFLA* established, for the first time, that government-compelled speech is a content-based regulation of speech.<sup>1</sup> The Court explained that “[b]y compelling individuals to speak a particular message,” the licensed notices “alter[ed] the content of [their] speech” and thus were content-based regulations. *Id.* at 2371. Such content-based regulations “are

---

<sup>1</sup> This holding arguably supersedes *Zauderer*, which appeared to apply rational basis review to laws requiring attorneys to make certain disclosures, stating, “we hold that an advertiser’s rights are adequately protected as long as disclosure requirements are reasonably related to the State’s interest in preventing deception of consumers.” See *Zauderer*, 471 U.S. at 651.

---

20 AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO

---

presumptively unconstitutional and may be justified only if the government proves that they are narrowly tailored to serve compelling state interests.” *Id.*

Second, *NIFLA* made clear that governments may not “impose content-based restrictions on speech without persuasive evidence of a long (if heretofore unrecognized) tradition to that effect.” *Id.* (cleaned up). The Court therefore rejected a line of circuit court cases holding that professional speech is exempt “from the rule that content-based regulations of speech are subject to strict scrutiny.” *Id.* at 2371–72. In doing so, *NIFLA* overruled our opinion in *Pickup v. Brown*, 740 F.3d 1208 (9th Cir. 2014), as well as a line of decisions in the Third and Fourth Circuits, *see, e.g., King v. Governor of N.J.*, 767 F.3d 216 (3d Cir. 2014); *Moore-King v. Cty. of Chesterfield*, 708 F.3d 560 (4th Cir. 2013). Further, *NIFLA* emphasized that “[t]his Court has been reluctant to mark off new categories of speech for diminished constitutional protection.” *Id.* at 2372 (internal quotation marks omitted). While the Court did not “question the legality of health and safety warnings long considered permissible,” *id.* at 2376, the Court did not create a standalone exception for such content-based restrictions. Instead, *NIFLA* reiterated that a category of speech is exempt from heightened scrutiny under the First Amendment only if the state can show a “long (if heretofore unrecognized) tradition to that effect.” *Id.* at 2372.

Against this backdrop, the Court established its analytic framework. A government regulation “compelling individuals to speak a particular message” is a content-based regulation that is subject to strict scrutiny, subject to two exceptions. *Id.* at 2372–73. First, the Court held that its precedents (most notably *Zauderer*, 471 U.S. at 650) afforded

---

AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO 21

more deferential review to “some laws that require professionals to disclose factual, noncontroversial information in their ‘commercial speech.’” *NIFLA*, 138 S. Ct. at 2372. Second, states may regulate professional conduct, even though that conduct incidentally involves speech, such as through informed consent requirements. *Id.*; see also *Planned Parenthood of Southeastern Pa. v. Casey*, 505 U.S. 833, 884 (1992).

To determine whether the *Zauderer* exception applies, a court must consider whether the compelled speech governs only [1] “commercial advertising” and requires the disclosure of [2] “purely factual and [3] uncontroversial information about [4] the terms under which . . . services will be available.” *NIFLA*, 138 S. Ct. at 2372 (internal quotation marks and citations omitted). If the government regulation meets those requirements, the regulation should be upheld unless it is [5] “unjustified or [6] unduly burdensome.” *Id.*

If the regulation does not qualify for the *Zauderer* exception, the regulation must survive heightened scrutiny to avoid violating the First Amendment. *Id.* at 2372. The Court did not decide whether strict scrutiny or intermediate scrutiny applies to government-compelled commercial disclosures that do not fall under the *Zauderer* exception. See *id.*

Applying this legal framework to both the licensed and unlicensed notice requirements, the Court held that neither regulation survived First Amendment scrutiny. The Court began by considering the notices required for licensed clinics. *Id.* at 2371–72. It first determined that the *Zauderer* exception did not apply for two reasons. *Id.* at 2372. First, the licensed notice was “not limited to purely factual and uncontroversial information about the terms under which . . .

---

22 AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO

---

services w[ould] be available,” because the notice “in no way relate[d] to the services that licensed clinics provide.” *Id.* (internal quotation marks and citations omitted). Second, the notice was not limited to uncontroversial information, because abortion is “anything but an ‘uncontroversial’ topic.” *Id.*

Because the *Zauderer* exception did not apply (and because the exception applicable to regulations of conduct that incidentally burdens speech, such as informed consent requirements, did not apply, *see id.* at 2373–74), the Court then considered whether the licensed notice requirement survived heightened scrutiny. The Court declined to determine whether strict scrutiny or intermediate scrutiny applied to the licensed notice, because that notice failed even under intermediate scrutiny. *Id.* at 2375. Even assuming the state had a substantial state interest in providing low-income women with information about state-sponsored services, the Court held that the licensed notice was not sufficiently drawn to achieve this interest: it was underinclusive, imprecisely drawn, and could have been replaced with less intrusive alternatives. *Id.* at 2375–76.

Turning to the notice required for unlicensed clinics, the Court again began by considering the applicability of the *Zauderer* exception. *Id.* at 2376–77. Because the unlicensed notice stated only that the “facility is not licensed as a medical facility by the State of California and has no licensed medical provider who provides or directly supervises the provision of services,” the Court did not need to address the threshold *Zauderer* factors; it was apparent that the unlicensed notice required the disclosure of purely factual and uncontroversial information about the terms under which services would be available. *See id.* at 2377. The Court

---

AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO 23

instead focused on whether the notice requirement was unjustified or unduly burdensome. *See id.* The Court concluded that California had not satisfied its burden of proving that the unlicensed notice requirement satisfied these two prongs, because “California has not demonstrated any justification for the licensed notice that is more than “purely hypothetical,”” *id.*, and the notice unduly burdened protected speech, *id.* at 2377–78. The Court held that the notice was underinclusive because it covered “a curiously narrow subset of speakers.” *Id.* at 2377. Moreover, the notice would have a chilling effect because the statute required that the government-drafted statement be in “larger text [than surrounding text] or contrasting type or color” and be posted in as many as 13 different languages. *Id.* at 2378. These requirements would “drown[] out the facility’s own message.” *Id.*

In contrast to its analysis of the licensed notice, the Court did not address the question whether the unlicensed notice requirement survived heightened scrutiny; there was no need to do so, because California did “not explain how the unlicensed notice could satisfy any standard other than *Zauderer*.” *Id.* at 2377 n.3. In other words, because the state did not make a colorable argument that the unlicensed notice requirement would survive heightened scrutiny, there was no dispute that the notice requirement violated the unlicensed clinics’ First Amendment rights unless the *Zauderer* exception applied. Because *Zauderer* did not apply, the unlicensed notice requirement was invalid, and the Court did not have to proceed further.

24 AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO

II

Under *NIFLA*, San Francisco's ordinance requiring companies who advertise certain sugar-sweetened beverages on billboards within San Francisco to include a warning message constitutes a "content-based regulation of speech" subject to heightened scrutiny unless an exception applies.

Turning first to the *Zauderer* exception, a court should consider whether the regulation requires the disclosure of purely factual and uncontroversial information about the terms under which services will be available. The required warning states:

WARNING: Drinking beverages with added sugar(s) contributes to obesity, diabetes, and tooth decay. This is a message from the City and County of San Francisco.

S.F. Health Code § 4203(a).

This warning does not provide "purely factual and uncontroversial information about the terms under which . . . services will be available." *Cf. NIFLA*, 138 S. Ct. at 2372; *Zauderer*, 471 U.S. at 651. The factual accuracy of the warning is disputed in the record. Among other things, the warning is contrary to statements by the FDA that added sugars are "generally recognized as safe," 21 C.F.R. §§ 184.1, 184.1866, and "can be a part of a healthy dietary pattern" when not consumed in excess amounts, 81 Fed. Reg. 33,742, 33,760 (May 27, 2016). Moreover, as Judge Christen's concurrence points out, the disclosure is literally false with respect to Type I diabetes. *MBC Op.* at 34–35. Although *NIFLA* did not define "uncontroversial," the warning here



---

AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO 25

requires the advertisers to convey San Francisco's one-sided policy views about sugar-sweetened beverages. The record shows this is a controversial topic, and therefore, the ordinance does not qualify as "uncontroversial information" under the third prong of *NIFLA*. Finally, the warning does not relate to the terms on which the advertisers provide their services. The warning merely relates to the consumption of sugar-sweetened beverages, which is a product rather than a service, and does not address the terms on which that product is provided.

Even if the warning requirement provided factual and uncontroversial information about the terms of service, the requirement would fail because it is unduly burdensome. As the majority acknowledges, the warning's size, required font size, contrasting color, and other requirements contribute to the severity of the warning's burden. Maj. Op. at 15–16. *NIFLA* makes clear that requiring commercial speakers, like the unlicensed clinics in *NIFLA*, to fight a government-scripted message that drowns out their own advertisements is unduly burdensome. Moreover, the record indicates that the warning label would have a chilling effect, causing some manufacturers of sugar-sweetened beverages to cease advertising on covered media. Therefore, the *Zauderer* exception does not apply.

Nor does any other exception apply.<sup>2</sup> The majority is wrong to the extent it suggests that "*NIFLA* preserved the exception to heightened scrutiny for health and safety warnings." Maj. Op. at 13. *NIFLA* made clear that only

---

<sup>2</sup> Obviously, the warning requirement does not constitute a regulation of professional conduct that incidentally involves speech, such as informed consent requirements.

---

26 AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO

---

“health and safety warnings long considered permissible” would be excepted. *See* 138 S. Ct. at 2376. California has made no showing that the warning here was “long considered permissible,” nor could it do so. The types of speech exempt from First Amendment protection are “well-defined and narrowly limited classes of speech, the prevention and punishment of which have never been thought to raise any Constitutional problem,” from 1791 to present. *See United States v. Stevens*, 559 U.S. 460, 468–69 (2010). These limited exceptions include defamation, obscenity, and fraud, *see id.*, not newly invented classes of speech, *see NIFLA*, 138 S. Ct. at 2371–72. *NIFLA* did not specify what sorts of health and safety warnings date back to 1791, but warnings about sugar-sweetened beverages are clearly not among them. Indeed, the First Amendment applies even to products that pose more obvious threats to health and safety, such as cigarettes. In a case involving restrictions on cigarette advertisements, the Court held that the “First Amendment also constrains state efforts to limit the advertising of tobacco products, because so long as the sale and use of tobacco is lawful for adults, the tobacco industry has a protected interest in communicating information about its products and adult customers have an interest in receiving that information.” *Lorillard Tobacco Co. v. Reilly*, 533 U.S. 525, 571 (2001). Given this context, our precedents creating a First Amendment exception for government-compelled health and safety warnings, *see CTIA—The Wireless Ass’n v. City of Berkeley, Calif.*, 854 F.3d 1105, 1116–17 (9th Cir. 2017), *vacated*, 138 S. Ct. 2708 (2018), are no more persuasive than our precedents creating a First Amendment exception for professional speech, which were struck down by *NIFLA*. In neither case is there a long tradition of government regulation dating back to 1791.

---

AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO 27

Because *Zauderer* does not apply here, *NIFLA* directs us to consider whether the ordinance survives heightened scrutiny. Under intermediate scrutiny, even assuming that there is a substantial state interest in warning the public of health dangers from drinking sugar-sweetened beverages, the warning requirement is not sufficiently drawn to that interest. First, the requirement is underinclusive both as to the covered products and as to the means of advertisement. The ordinance does not even apply to all sugar-sweetened beverages, much less all sugar-sweetened products. Moreover, it applies to posters and billboards, but not digital ads or other types of media. Like the notices in *NIFLA*, the warning requirement is “wildly underinclusive.” *See* 138 S. Ct. at 2367. Second, San Francisco could disseminate health information by other, less burdensome means, such as a less intrusive notice or a public health campaign. *Cf. id.* at 2376. Because the warning requirement is not narrowly drawn, it does not survive even intermediate scrutiny. Thus, it is not necessary to determine whether strict or intermediate scrutiny applies here.

### III

While the majority correctly concludes that the advertisers have shown a likelihood of prevailing on the merits of their First Amendment claims, the majority fails to follow the analytic framework set out in *NIFLA* and makes several crucial errors.

First, the majority errs by skipping over the threshold question regarding *Zauderer*'s applicability, namely whether the notice requirement applies to commercial advertising and requires the disclosure of purely factual and uncontroversial information about the terms under which services will be

---

28 AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO

---

available. Despite focusing primarily on the undue burden prong, the majority fails to provide any guidance regarding when a warning is unjustified or unduly burdensome. Instead of following *NIFLA* in considering the totality of the requirements of the unlicensed notice and their effect on the speaker (there, the clinics) to conclude that the unlicensed notice was unduly burdensome, *see* 138 S. Ct. at 2378, the majority seems to suggest that the test is whether a smaller warning would accomplish San Francisco's stated goals. Maj. Op. at 15–16.

Most important, the majority errs by failing to consider whether San Francisco's ordinance could be upheld under heightened scrutiny even if the *Zauderer* exception does not apply. The majority concedes that it does not “preclude [San Francisco] from arguing that the Ordinance survives heightened scrutiny.” Maj. Op. at 15 n.5. And here, San Francisco has done just that, arguing vigorously that its ordinance survives intermediate scrutiny. The majority fails to address this argument, apparently on the ground that “logically” any such argument would be futile because “if the warning does not meet a lower standard, it necessarily does not meet a higher standard.” Maj. Op. at 15 n.5. This reasoning is flawed. A government regulation, for instance, may require a commercial speaker to include images of dying cancer patients on cigarette packages. *See, e.g.,* Required Warnings for Cigarette Packages and Advertisements, 75 Fed. Reg. 69,524, 69,533 (Nov. 12, 2010) (proposed rule). While a court might conclude that such compelled speech is not “purely factual and uncontroversial,” the court might nevertheless conclude that the regulation meets the test under *Central Hudson Gas & Electric Corp. v. Public Service Commission of New York*, 447 U.S. 557, 563–65 (1980) (assuming this case provides the applicable test), because the

---

AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO 29

government has a substantial interest in discouraging smoking, the regulation directly and materially advances the interest, and the restriction is narrowly tailored to discourage young people from smoking (based on expert opinion). In any event, the majority is bound by *NIFLA*, which requires courts to consider such arguments: *NIFLA* applied heightened scrutiny to the licensed notice and indicated that it would have applied heightened scrutiny to the unlicensed notice had California made any arguments on that point. *See NIFLA*, 138 S. Ct. at 2377 n.3. The majority's failure to address San Francisco's argument is therefore contrary to Supreme Court direction.

Because the Associations have shown a likelihood of prevailing on the merits and because the other factors for granting a preliminary injunction weigh in the Associations' favor, I agree with the majority's conclusion that the district court abused its discretion by denying the Associations' motion for a preliminary injunction. But because the majority fails to apply *NIFLA*'s framework for analyzing when government-compelled speech violates the First Amendment, I dissent from the majority's reasoning.

---

CHRISTEN, Circuit Judge, joined by THOMAS, Chief Judge, concurring in part and concurring in the judgment:

I agree with the majority that *Zauderer*'s framework applies to the government-compelled speech at issue in this case. *See Zauderer v. Office of Disciplinary Counsel*, 471 U.S. 626, 651 (1985). I also agree that the district court's decision must be reversed, but I would not reach the issue the majority relies upon. I would reverse because the City and

---

30 AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO

---

County of San Francisco cannot show that the speech it seeks to compel is “purely factual[.]” *Id.* For this reason, San Francisco’s proposed warning fails what should be the threshold inquiry in this case, and it violates the First Amendment.

*Zauderer* considered an attorney’s First Amendment challenge to a state bar rule. *Id.* at 632–33, 659 n.3. For attorneys advertising that their clients would not pay fees if their lawsuits were unsuccessful, the rule required disclosure that the clients would still be liable for litigation costs. *Id.* The Court held that the bar rule did not violate the First Amendment. In reaching this result, the Court observed that “disclosure requirements trench much more narrowly on an advertiser’s interests than do flat prohibitions on speech[.]” *Id.* at 651. It was critical to the Court’s decision that the bar rule was intended to prevent consumer deception; the Court stressed that the rule required only the inclusion of “*purely factual* and uncontroversial information about the terms under which [an attorney’s] services will be available.” *Id.* (emphasis added).

Any sort of compelled speech potentially infringes First Amendment rights, and case law approves government-mandated messages only in very limited contexts. *See, e.g., Milavetz, Gallop & Milavetz, P.A. v. United States*, 559 U.S. 229, 249–50 (2010) (upholding requirement that lawyers disclose certain information in advertisements to prevent consumer deception); *Pharm. Care Mgmt. Ass’n v. Rowe*, 429 F.3d 294, 310 (1st Cir. 2005) (per curiam) (upholding requirement that pharmacy benefit managers disclose conflicts of interest and certain financial arrangements); *Nat’l Elec. Mfrs. Ass’n v. Sorrell*, 272 F.3d 104, 113–15 (2d Cir. 2001) (upholding labeling requirement intended to increase

---

AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO 31

consumer awareness about the amount of mercury in products). Where a government-compelled message “does not require the disclosure of purely factual information” and instead “compels the carrying of the [government’s] controversial opinion[.]” it is clearly “unconstitutionally compelled speech[.]” *Video Software Dealers Ass’n v. Schwarzenegger*, 556 F.3d 950, 953 (9th Cir. 2009), *aff’d sub nom. Brown v. Entm’t Merch. Ass’n*, 564 U.S. 786 (2011). *Zauderer* and subsequent case law leave no doubt that any government-compelled speech must be, at the very least, factually accurate.

The majority acknowledges that *National Institute of Family & Life Advocates v. Becerra* (“*NIFLA*”), 138 S. Ct. 2361 (2018), does not require courts to begin the *Zauderer* analysis by addressing whether the compelled speech is unjustified or unduly burdensome; *NIFLA* did not modify *Zauderer*. *NIFLA* struck down a California law requiring that clinics primarily serving pregnant women provide certain notices. *See id.* at 2378. Licensed clinics were required to post notices that California provides free or low-cost services, including abortions, and unlicensed clinics were required to give notice that they were not licensed to provide medical services. *Id.* at 2369. *NIFLA* held that the speech imposed upon licensed clinics did not satisfy *Zauderer* because, unlike the disclosure required for attorneys’ services ads, the notice regarding the availability of abortion services did not “relate[] to the services that licensed clinics provide[d],” and it concerned the controversial topic of abortion. *Id.* at 2372. The notice that unlicensed clinics were compelled to post violated the First Amendment because, “[e]ven under *Zauderer*, a disclosure requirement cannot be ‘unjustified or unduly burdensome,’” and the Court ruled that California did not demonstrate any justification for the compelled speech

---

32 AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO

---

that was more than purely hypothetical. *Id.* at 2377 (quoting *Zauderer*, 471 U.S. at 651).

Here, our court holds that *Zauderer* requires compelled speech to be (1) purely factual; (2) noncontroversial; and (3) not unjustified or unduly burdensome. Additionally, the compelled speech must relate to the speaker's services or products. Where I differ is with the majority's application of the test. The majority skips whether San Francisco's compelled warning is factually accurate and jumps straight to asking whether the proposed warning is "unjustified or unduly burdensome." The court reasons that *NIFLA* made clear that "a government-compelled disclosure that imposes an undue burden fails for that reason alone," but the same is true of *Zauderer*'s other requirements. The majority's decision to follow *NIFLA* and address the "unduly burdensome" question first overlooks that there was no dispute in *NIFLA* about the factual accuracy of the compelled speech. We have no precedent addressing a government proposal to appropriate commercial advertising space for the purpose of conveying a factually inaccurate message, but where, as here, the parties disagree about the veracity of compelled speech, the court should begin by asking whether the government's message is objectively true. Deciding whether a compelled message is controversial or unduly burdensome will often entail much more subjective judgments. If compelled speech is not factually accurate, the court's inquiry should end.

San Francisco seeks to require that advertisements for sugar-sweetened beverages include the following:

WARNING: Drinking beverages with added sugar(s) contributes to obesity, diabetes, and



---

AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO 33

---

tooth decay. This is a message from the City and County of San Francisco.

To survive the “purely factual” part of *Zauderer*’s test, the statement that beverages with added sugars “contribute[] to” obesity, diabetes, and tooth decay, must be true—yet there is no evidence that it is. To the contrary, “diabetes” is an umbrella term referring to both type 1 diabetes (sometimes called juvenile-onset or insulin-dependent diabetes) and type 2 diabetes. Rather than using the generic term “diabetes,” medical studies investigating causation are careful to differentiate between the two forms of the disease.<sup>1</sup> The precise causes of type 1 diabetes are unknown, but genetic and environmental factors, including viruses, are thought to contribute to its development.<sup>2</sup> Research demonstrates a correlation between the consumption of sugar-sweetened beverages and the development of type 2 diabetes,<sup>3</sup> but San Francisco has not shown that there is any association at all between consumption of sugar-sweetened beverages and the development of type 1 diabetes. Ironically, the American Diabetes Association directly addresses this on its “Diabetes

---

<sup>1</sup> See, e.g., M. Vanstone et al., *Patient Perspectives on Quality of Life with Uncontrolled Type 1 Diabetes Mellitus: A Systematic Review and Qualitative Meta-synthesis*, 15 ONTARIO HEALTH TECH. ASSESSMENT SERIES 1 (2015); Vasanti S. Malik et al., *Sugar-Sweetened Beverages, Obesity, Type 2 Diabetes Mellitus, and Cardiovascular Disease Risk*, 121 CIRCULATION 1356 (2010).

<sup>2</sup> See *Type 1 Diabetes: Symptoms & Causes*, MAYO CLINIC (Aug. 7, 2017), <https://www.mayoclinic.org/diseases-conditions/type-1-diabetes/symptoms-causes/syc-20353011>.

<sup>3</sup> See, e.g., Vasanti S. Malik et al., *Sugar-Sweetened Beverages and Risk of Metabolic Syndrome and Type 2 Diabetes: A Meta-Analysis*, 33 DIABETES CARE 2477 (2010).

---

34 AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO

---

Myths” webpage, stating that type 1 diabetes is not caused by sugar, it “is caused by genetics and unknown factors that trigger the onset of the disease.”<sup>4</sup> The message that drinking sugar-sweetened beverages “contributes to” diabetes (including type 1 diabetes) is not only not “purely factual and uncontroversial,” it is devoid of scientific support. See *Zauderer*, 471 U.S. at 651.

In this particular case, it cannot be doubted that the government’s proposed message is controversial: it would require that manufacturers, retailers, and advertisers include in their ads, under a banner that begins “Warning,” the message that their product contributes to diabetes even though the causes of type 1 diabetes are not actually known.<sup>5</sup> Thus, in addition to being factually inaccurate, San Francisco’s proposed warning also fails *Zauderer*’s requirement that the compelled speech be uncontroversial. Though I would strike the warning under either the first or second part of *Zauderer*’s test, my view is that, given the facts of this case, we should treat *Zauderer*’s “purely factual” inquiry as the threshold question because it provides a much more objective basis for disqualifying San Francisco’s compelled speech. It is possible to envision a scenario in which the “unjustified or unduly burdensome” inquiry could provide a more objective basis for striking a government-mandated message. For example, that could occur if determining the accuracy of a proposed message was not as

---

<sup>4</sup> See *Diabetes Myths*, AMERICAN DIABETES ASSOC., <http://www.diabetes.org/diabetes-basics/myths/> (last updated Aug. 20, 2018).

<sup>5</sup> See *Diabetes: Symptoms & Causes*, MAYO CLINIC (Aug. 8, 2018), <https://www.mayoclinic.org/diseases-conditions/diabetes/symptoms-causes/syc-20371444>.

---

AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO 35

cut-and-dried as it is here, or if the government tried to commandeer the majority of available ad space. This is not one of those cases. Because San Francisco's compelled warning undeniably fails *Zauderer's* "purely factual" hurdle, we should not reach whether the message is uncontroversial or unduly burdensome; both of those inquiries require the court to make more subjective judgments.

San Francisco argues that its warning must not be read too literally, and that consumers will understand that its warning refers to type 2 diabetes. But the contention that a reasonable person would understand San Francisco's intended message is in tension with the goal of having a public health message understood by the maximum number of consumers, not just those with sophisticated levels of health literacy. Because the message would be conveyed to sophisticated and unsophisticated consumers, we must read it literally.

Relatedly, San Francisco acknowledges that not every consumer of sugary drinks will become obese or suffer from tooth decay or diabetes. It argues that readers will understand that its warning is intended to convey a community-wide message: that consuming sugar-sweetened beverages will lead to more instances of obesity, diabetes, and tooth decay within the City and County as a whole. But even if the qualifier "may" is read into the message, and the warning is understood as "sugary drinks may contribute to obesity, diabetes and tooth decay on a community-wide basis," it remains untrue with regard to type 1 diabetes.

Finally, San Francisco's compelled message is problematic because it suggests that sugar is always dangerous for diabetics. In fact, consuming sugar-sweetened beverages can be medically indicated for a type 1 diabetic

---

36 AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO

---

when there are signs of hypoglycemia, a complication of type 1 diabetes, because drinking fruit juice or soda raises blood sugar levels quickly.<sup>6</sup>

Insisting that compelled speech be purely factual may seem persnickety, but there are significant constitutional implications whenever the government seeks to control our speech. There are also societal consequences to inaccurate government-mandated messages. In one study, over eighty percent of parents of children with type 1 diabetes and over seventy percent of patients with type 1 diabetes, reported that they are stigmatized, most commonly by the perception that diabetes is a character flaw or the result of a failure in personal responsibility.<sup>7</sup>

San Francisco may be commended for aiming to address serious and growing public health problems, but by compelling speech that is not factually accurate, it runs afoul of *Zauderer*'s caution—"in some instances compulsion to speak may be as violative of the First Amendment as prohibitions on speech." *Zauderer*, 471 U.S. at 650. When the government takes the momentous step of mandating that its message be delivered by private parties, it is exceptionally important that the compelled speech be purely factual.

For these reasons, though I reach the same result as the majority, I would hold that the warning San Francisco seeks

---

<sup>6</sup> See *Type 1 Diabetes: Diagnosis & Treatment*, MAYO CLINIC (Aug. 7, 2017), <https://www.mayoclinic.org/diseases-conditions/type-1-diabetes/diagnosis-treatment/drc-20353017>.

<sup>7</sup> See Nancy F. Liu et al., *Stigma in People with Type 1 or Type 2 Diabetes*, 35 CLINICAL DIABETES J. 27 (2017).

---

AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO 37

to compel fails the threshold requirement of factual accuracy, and end the *Zauderer* analysis there.

---

NGUYEN, Circuit Judge, concurring in the judgment:

In *Central Hudson*, the Supreme Court held that regulation of commercial speech is evaluated under an intermediate scrutiny standard. See *Cent. Hudson Gas & Elec. Corp. v. Pub. Serv. Comm'n*, 447 U.S. 557, 566 (1980) (requiring that commercial speech regulation “directly advances” a “substantial” governmental interest and “is not more extensive than is necessary to serve that interest”). Prior to applying this standard, however, courts must first determine whether the speech at issue “is false, deceptive, or misleading.” *Zauderer v. Office of Disciplinary Counsel*, 471 U.S. 626, 638 (1985); see *Central Hudson*, 447 U.S. at 566. If the regulation addresses speech that falls into one of these categories, then *Zauderer*’s rational basis test applies. See *Zauderer*, 471 U.S. at 651 (holding that disclosure requirements comport with the First Amendment “as long as [they] are reasonably related to the State’s interest in preventing deception of consumers” (emphasis added)). With almost all other types of regulations,<sup>1</sup> “the government’s power is more circumscribed,” *Central Hudson*, 447 U.S. at 564, and *Central Hudson*’s intermediate scrutiny applies.

---

<sup>1</sup> Presumably, the rational basis test also applies to “commercial speech related to illegal activity,” *Cent. Hudson*, 447 U.S. at 564, which, like other deceptive speech, deserves less constitutional protection, see *id.* at 563–64.

---

38 AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO

---

I disagree with the majority's expansion of *Zauderer*'s rational basis review to commercial speech that is not false, deceptive, or misleading. In the majority's view, *Zauderer* applies to regulations requiring public health disclosures. But it is the commercial message's accuracy—not its completeness—that demarcates the boundary between *Central Hudson*'s intermediate scrutiny and *Zauderer*'s rational basis test. “The First Amendment’s concern for commercial speech is based on the informational function of advertising.” *Id.* at 563. “Even when advertising communicates only an incomplete version of the relevant facts, the First Amendment presumes that some accurate information is better than no information at all.”<sup>2</sup> *Id.* at 562.

The Supreme Court stressed that “*Zauderer* governs our review” rather than *Central Hudson* when a statute is “directed at *misleading* commercial speech.” *Milavetz, Gallop & Milavetz, P.A. v. United States*, 559 U.S. 229, 249 (2010) (emphasis in original). That the “required disclosures are intended to combat the problem of inherently misleading commercial advertisements” is one of the “essential features of the rule at issue in *Zauderer*.” *Id.* at 250. By treating the “false or misleading” requirement as non-essential, the majority invites reversal.

---

<sup>2</sup> The analysis does not differ simply because *Central Hudson* involved prohibited content and the instant case involves mandated content. A law compelling the publication of certain content “operates as a command in the same sense as a statute or regulation forbidding [a business] to publish specified matter.” *Miami Herald Publ’g Co. v. Tornillo*, 418 U.S. 241, 256 (1974); see also *Wooley v. Maynard*, 430 U.S. 705, 714 (1977) (“[T]he right of freedom of thought protected by the First Amendment against state action includes both the right to speak freely and the right to refrain from speaking at all.”).

---

AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO 39

The Supreme Court recently had the opportunity to expand *Zauderer*'s application beyond deceptive speech but declined to do so. See *Nat'l Inst. of Family & Life Advocates v. Becerra* (“*NIFLA*”), 138 S. Ct. 2361, 2376–77 (2018). Instead, the Court reiterated its “reluctan[ce] to mark off new categories of speech for diminished constitutional protection.” *NIFLA*, 138 S. Ct. at 2372 (quoting *Denver Area Educ. Telecommc'ns Consortium, Inc. v. FCC*, 518 U.S. 727, 804 (1996) (Kennedy, J., dissenting in part, concurring in judgment in part, and dissenting in part)). The Court was “especially reluctant to ‘exempt a category of speech from the normal prohibition on content-based restrictions.’” *Id.* (quoting *United States v. Alvarez*, 567 U.S. 709, 722 (2012) (plurality opinion)) (alteration in *NIFLA* omitted).

The majority’s application of *Zauderer* to San Francisco’s sugary beverage ordinance is particularly troubling given that it regulates speech based on content. The ordinance applies to “any advertisement . . . that identifies, promotes, or markets a Sugar-Sweetened Beverage for sale or use” in specified media. S.F. Health Code § 4202. To the extent San Francisco is concerned about the health effects of sugar in food and beverages, its focus on a specific subset of sugar-laden products is not evenhanded. See *Reed v. Town of Gilbert*, 135 S. Ct. 2218, 2232 (2015). And a requirement for any vendor of sugary products to convey a particular message “is a content-based regulation of speech.” *NIFLA*, 138 S. Ct. at 2371. While San Francisco’s goal of reducing obesity is laudable, the appropriate level of scrutiny does not turn on the government’s good intent.

I join my colleagues who have previously disagreed with applying *Zauderer* outside the context of false and misleading speech, see *CTIA—The Wireless Ass’n v. City of Berkeley*,

---

40 AM. BEVERAGE ASS'N V. CITY & CTY. OF SAN FRANCISCO

---

854 F.3d 1105, 1125 n.2 (9th Cir. 2017) (Friedland, J., concurring in part and dissenting in part) (suggesting that “*Zauderer* applies only when the government compels a truthful disclosure to counter a false or misleading advertisement”), *vacated and remanded for reconsideration in light of NIFLA*, 138 S. Ct. 2708 (2018), and I share their concerns that our current case law will lead to “a proliferation of warnings and disclosures compelled by local municipal authorities” that have “only a tenuous link to a ‘more than trivial’ government interest,” *CTIA*, 873 F.3d 774, 777 (9th Cir. 2017) (Wardlaw, J., dissenting from denial of reh’g en banc).

Because the majority reaches the right result under the wrong legal standard, I respectfully concur only in the judgment.





# Type 1 diabetes

## Overview

Type 1 diabetes, once known as juvenile diabetes or insulin-dependent diabetes, is a chronic condition in which the pancreas produces little or no insulin. Insulin is a hormone needed to allow sugar (glucose) to enter cells to produce energy.

Different factors, including genetics and some viruses, may contribute to type 1 diabetes. Although type 1 diabetes usually appears during childhood or adolescence, it can develop in adults.

Despite active research, type 1 diabetes has no cure. Treatment focuses on managing blood sugar levels with insulin, diet and lifestyle to prevent complications.

## Symptoms

Type 1 diabetes signs and symptoms can appear relatively suddenly and may include:

- Increased thirst
- Frequent urination
- Bed-wetting in children who previously didn't wet the bed during the night
- Extreme hunger
- Unintended weight loss
- Irritability and other mood changes
- Fatigue and weakness
- Blurred vision

## When to see a doctor

Consult your doctor if you notice any of the above signs and symptoms in you or your child.

## Causes

The exact cause of type 1 diabetes is unknown. Usually, the body's own immune system — which normally fights harmful bacteria and viruses — mistakenly destroys the insulin-producing (islet, or islets of Langerhans) cells in the pancreas. Other possible causes include:

*cited in America Beverage Assn. v. City & County of San Francisco  
No. 16-16072, archived on January 25, 2019*

- Genetics
- Exposure to viruses and other environmental factors

## The role of insulin

Once a significant number of islet cells are destroyed, you'll produce little or no insulin. Insulin is a hormone that comes from a gland situated behind and below the stomach (pancreas).

- The pancreas secretes insulin into the bloodstream.
- Insulin circulates, allowing sugar to enter your cells.
- Insulin lowers the amount of sugar in your bloodstream.
- As your blood sugar level drops, so does the secretion of insulin from your pancreas.

## The role of glucose

Glucose — a sugar — is a main source of energy for the cells that make up muscles and other tissues.

- Glucose comes from two major sources: food and your liver.
- Sugar is absorbed into the bloodstream, where it enters cells with the help of insulin.
- Your liver stores glucose as glycogen.
- When your glucose levels are low, such as when you haven't eaten in a while, the liver breaks down the stored glycogen into glucose to keep your glucose levels within a normal range.

In type 1 diabetes, there's no insulin to let glucose into the cells, so sugar builds up in your bloodstream. This can cause life-threatening complications.

## Risk factors

Some known risk factors for type 1 diabetes include:

- **Family history.** Anyone with a parent or sibling with type 1 diabetes has a slightly increased risk of developing the condition.
- **Genetics.** The presence of certain genes indicates an increased risk of developing type 1 diabetes.
- **Geography.** The incidence of type 1 diabetes tends to increase as you travel away from the equator.
- **Age.** Although type 1 diabetes can appear at any age, it appears at two noticeable peaks. The first peak occurs in children between 4 and 7 years old, and the second is in children between 10 and 14 years old.

## Complications

Over time, type 1 diabetes complications can affect major organs in your body, including heart, blood vessels, nerves, eyes and kidneys. Maintaining a normal blood sugar level can dramatically reduce the risk of many complications.

Eventually, diabetes complications may be disabling or even life-threatening.

- **Heart and blood vessel disease.** Diabetes dramatically increases your risk of various cardiovascular problems, including coronary artery disease with chest pain (angina), heart attack, stroke, narrowing of the arteries (atherosclerosis) and high blood pressure.
- **Nerve damage (neuropathy).** Excess sugar can injure the walls of the tiny blood vessels (capillaries) that nourish your nerves, especially in the legs. This can cause tingling, numbness, burning or pain that usually begins at the tips of the toes or fingers and gradually spreads upward. Poorly controlled blood sugar could cause you to eventually lose all sense of feeling in the affected limbs.

Damage to the nerves that affect the gastrointestinal tract can cause problems with nausea, vomiting, diarrhea or constipation. For men, erectile dysfunction may be an issue.

- **Kidney damage (nephropathy).** The kidneys contain millions of tiny blood vessel clusters that filter waste from your blood. Diabetes can damage this delicate filtering system. Severe damage can lead to kidney failure or irreversible end-stage kidney disease, which requires dialysis or a kidney transplant.
- **Eye damage.** Diabetes can damage the blood vessels of the retina (diabetic retinopathy), potentially causing blindness. Diabetes also increases the risk of other serious vision conditions, such as cataracts and glaucoma.
- **Foot damage.** Nerve damage in the feet or poor blood flow to the feet increases the risk of various foot complications. Left untreated, cuts and blisters can become serious infections that may ultimately require toe, foot or leg amputation.
- **Skin and mouth conditions.** Diabetes may leave you more susceptible to infections of the skin and mouth, including bacterial and fungal infections. Gum disease and dry mouth also are more likely.
- **Pregnancy complications.** High blood sugar levels can be dangerous for both the mother and the baby. The risk of miscarriage, stillbirth and birth defects increases when diabetes isn't well-controlled. For the mother, diabetes increases the risk of diabetic ketoacidosis, diabetic eye problems (retinopathy), pregnancy-induced high blood pressure and preeclampsia.

## Prevention

There's no known way to prevent type 1 diabetes. But researchers are working on preventing the disease or further destruction of the islet cells in people who are newly diagnosed.

Ask your doctor if you might be eligible for one of these clinical trials, but carefully weigh the risks and benefits of any treatment available in a trial.

By Mayo Clinic Staff

Any use of this site constitutes your agreement to the Terms and Conditions and Privacy Policy linked below.

[Terms and Conditions](#)

[Privacy Policy](#)

[Notice of Privacy Practices](#)

[Notice of Nondiscrimination](#)

[Manage Cookies](#)

Mayo Clinic is a nonprofit organization and proceeds from Web advertising help support our mission. Mayo Clinic does not endorse any of the third party products and services advertised.

[Advertising and sponsorship policy](#)

[Advertising and sponsorship opportunities](#)

A single copy of these materials may be reprinted for noncommercial personal use only. "Mayo," "Mayo Clinic," "MayoClinic.org," "Mayo Clinic Healthy Living," and the triple-shield Mayo Clinic logo are trademarks of Mayo Foundation for Medical Education and Research.

---

© 1998-2019 Mayo Foundation for Medical Education and Research (MFMER). All rights reserved.

*cited in American Beverage Assn. v. City & County of San Francisco  
No. 16-16072 archived on January 25, 2019*



## Diabetes Myths



(<http://www.diabetes.org/diabetes-basics/myths/diabetes-is-not-a-choice.html>)

On behalf of the millions of Americans who live with or are at risk for diabetes, we are committed to helping you understand this chronic disease. Help us set the record straight and educate the world about diabetes and its risk factors by sharing the common questions and answers below. If you're new to type 2 diabetes, join our [Living With Type 2 Diabetes program](http://diabetes.org/lwt2d) (<http://diabetes.org/lwt2d>) to get more facts.

**If you're overweight, will you always develop type 2 diabetes?**

**Being overweight is a risk factor for developing diabetes, but other risk factors such as how much physical activity you get, family history, ethnicity, and age also play a role.** Unfortunately, many people think that weight is the only risk factor for type 2 diabetes, but many people with type 2 diabetes are at a normal weight or only moderately overweight.

**Is diabetes caused by eating sugar?**

**A diet high in calories from any source (including sugar) contributes to weight gain and weight gain increases your risk for type 2 diabetes.** Type 1 diabetes is caused by genetics and unknown factors that trigger the onset of the disease. Type 2 diabetes is not caused by sugar, but by genetics and lifestyle factors.

**Do sugary drinks cause diabetes?**

**Research has also shown that drinking sugary drinks is linked to type 2 diabetes. The American Diabetes Association recommends that people avoid drinking sugar-sweetened beverages to help prevent type 2 diabetes.**

Sugary drinks also raise blood glucose (also called blood sugar) and can provide several hundred calories in just one serving. Just one 12-ounce can of regular soda has about 150 calories and 40 grams of carbohydrate. This is the same amount of carbohydrate in 10 teaspoons of sugar!

Sugar-sweetened beverages include beverages like:

- Regular soda
- Fruit punch
- Fruit drinks
- Energy drinks
- Sports drinks
- Sweet tea
- Other sugary drinks

**Is diabetes a serious disease?**

**Diabetes causes more deaths per year than breast cancer and AIDS combined, and having diabetes nearly doubles your chance of having a heart attack.** The good news is that managing your diabetes can reduce your risk for diabetes complications.

**Do people with diabetes need to eat special foods?**

**A healthy meal plan for people with diabetes is generally the same as healthy eating for anyone** – low in saturated fat, moderate in salt and sugar, with meals based on lean protein, non-starchy vegetables, whole grains, healthy fats, and fruit. Foods that say they are healthier for people with diabetes generally offer no special benefit. Most of them still raise blood glucose levels, are more expensive, and can also have a laxative effect if they contain sugar alcohols.

**If you have diabetes, do you have to only eat small amounts of starchy foods, such as bread, potatoes and pasta?**

**Starchy foods can be part of a healthy meal plan, but portion size is key.** Breads, cereals, pasta, rice (whole grain options are better), and starchy vegetables like potatoes, yams, peas, and corn can be included in your meals and snacks.

**How much carbohydrate can a person with diabetes eat?**

**The amount of carbohydrate you need will vary based on many factors. You and your health care team can figure out the right amount for you.** Once you know how much carb to eat, choose your food and portion sizes to match.

**Can people with diabetes can't eat sweets or chocolate?**

**If eaten as part of a healthy meal plan, or combined with exercise, sweets and desserts can be eaten by people with diabetes.** They are no more "off limits" to people with diabetes than they are to

people without diabetes. The key to sweets is to have a very small portion and save them for special occasions so you focus your meal on more healthful foods.

#### Can you catch diabetes from someone else?

**No. Although we don't know exactly why some people develop diabetes and others don't, we know diabetes is not contagious.** It can't be caught like a cold or flu. There seems to be some genetic link in diabetes, particularly type 2 diabetes.

#### Are people with diabetes more likely to get colds and other illnesses?

**You are no more likely to get a cold or another illness if you have diabetes.** People with diabetes are advised to get flu shots. This is because any illness can make diabetes more difficult to control, and people with diabetes who get the flu are more likely than others to go on to develop serious complications.

**If you have type 2 diabetes and your doctor says you need to start using insulin, does it mean you're failing to take care of your diabetes properly?**

**Using insulin to get blood glucose levels to a healthy level is a good thing, not a bad one.** For most people, type 2 diabetes is a progressive disease. When first diagnosed, many people with type 2 diabetes can keep their blood glucose at a healthy level with a combination of meal planning, physical activity, and taking oral medications. But over time, the body gradually produces less and less of its own insulin, and eventually oral medications may not be enough to keep blood glucose levels in a healthy range.

**Fruit is a healthy food, so is it ok to eat as much of it as you want?**

**Because fruits contain carbohydrates, they do raise blood glucose and that needs to be taken into consideration when meal planning.** Still, fruit is a healthy food containing fiber and lots of vitamins and minerals, so talk to your dietitian about the amount, frequency, and types of fruits you should eat.

Last Reviewed: May 17, 2017

Last Edited: August 20, 2018



Articles from *Diabetes Forecast*® magazine:  
(<http://www.diabetesforecast.org>)

(<http://www.diabetes.org/in-my-community/become-a-member/?loc=articles>)  
Keys to Being an Informed Patient (<http://www.diabetesforecast.org/2018/06-nov-dec/keys-to-being-an-informed.html?loc=morefrom>)

Insurance Glossary (<http://www.diabetesforecast.org/2018/06-nov-dec/insurance-glossary.html?loc=morefrom>)

[Diabetes Through History \(http://www.diabetesforecast.org/2015/nov-dec/diabetes-through-history.html?loc=morefrom\)](http://www.diabetesforecast.org/2015/nov-dec/diabetes-through-history.html?loc=morefrom)

[Free Guide to Diabetes and Reproductive Health for Girls \(http://www.diabetesforecast.org/2014/09-sep/free-guide-to-diabetes-and.html?loc=morefrom\)](http://www.diabetesforecast.org/2014/09-sep/free-guide-to-diabetes-and.html?loc=morefrom)

[Some Forms of Diabetes Don't Play to Type \(http://www.diabetesforecast.org/2014/05-may/some-forms-of-diabetes-dont.html?loc=morefrom\)](http://www.diabetesforecast.org/2014/05-may/some-forms-of-diabetes-dont.html?loc=morefrom)

## Connect With Us

Register for diabetes news, research and food & fitness tips.

Yes, I would like to receive e-mail from the American Diabetes Association.

To identify that you are a real human, please solve below problem:

2 + 9 =

*Filed in American Beverage Assn. v. City & County of San Francisco No. 16-16072 archived on January 25, 2019*

**American Diabetes Association**  
2451 Crystal Drive, Suite 900  
Arlington, VA 22202  
1-800-DIABETES (800-342-2383)



Copyright 1995-2019. American Diabetes Association. All rights reserved. Use of this website constitutes acceptance of our [Terms of Use](#) and [Privacy Policy](#)





# Diabetes

## Overview

Diabetes mellitus refers to a group of diseases that affect how your body uses blood sugar (glucose). Glucose is vital to your health because it's an important source of energy for the cells that make up your muscles and tissues. It's also your brain's main source of fuel.

The underlying cause of diabetes varies by type. But, no matter what type of diabetes you have, it can lead to excess sugar in your blood. Too much sugar in your blood can lead to serious health problems.

Chronic diabetes conditions include type 1 diabetes and type 2 diabetes. Potentially reversible diabetes conditions include prediabetes — when your blood sugar levels are higher than normal, but not high enough to be classified as diabetes — and gestational diabetes, which occurs during pregnancy but may resolve after the baby is delivered.

## Symptoms

Diabetes symptoms vary depending on how much your blood sugar is elevated. Some people, especially those with prediabetes or type 2 diabetes, may not experience symptoms initially. In type 1 diabetes, symptoms tend to come on quickly and be more severe.

Some of the signs and symptoms of type 1 and type 2 diabetes are:

- Increased thirst
- Frequent urination
- Extreme hunger
- Unexplained weight loss
- Presence of ketones in the urine (ketones are a byproduct of the breakdown of muscle and fat that happens when there's not enough available insulin)
- Fatigue
- Irritability
- Blurred vision
- Slow-healing sores
- Frequent infections, such as gums or skin infections and vaginal infections

*cited in American Beverage Assn. v. City & County of San Francisco  
No. 16-16072 archived on January 25, 2019*

Type 1 diabetes can develop at any age, though it often appears during childhood or adolescence. Type 2 diabetes, the more common type, can develop at any age, though it's more common in people older than 40.

## When to see a doctor

- **If you suspect you or your child may have diabetes.** If you notice any possible diabetes symptoms, contact your doctor. The earlier the condition is diagnosed, the sooner treatment can begin.
- **If you've already been diagnosed with diabetes.** After you receive your diagnosis, you'll need close medical follow-up until your blood sugar levels stabilize.

## Causes

To understand diabetes, first you must understand how glucose is normally processed in the body.

### How insulin works

Insulin is a hormone that comes from a gland situated behind and below the stomach (pancreas).

- The pancreas secretes insulin into the bloodstream.
- The insulin circulates, enabling sugar to enter your cells.
- Insulin lowers the amount of sugar in your bloodstream.
- As your blood sugar level drops, so does the secretion of insulin from your pancreas.

### The role of glucose

Glucose — a sugar — is a source of energy for the cells that make up muscles and other tissues.

- Glucose comes from two major sources: food and your liver.
- Sugar is absorbed into the bloodstream, where it enters cells with the help of insulin.
- Your liver stores and makes glucose.
- When your glucose levels are low, such as when you haven't eaten in a while, the liver breaks down stored glycogen into glucose to keep your glucose level within a normal range.

### Causes of type 1 diabetes

The exact cause of type 1 diabetes is unknown. What is known is that your immune system — which normally fights harmful bacteria or viruses — attacks and destroys your insulin-producing cells in the pancreas. This leaves you with little or no insulin. Instead of being transported into your cells, sugar builds up in your bloodstream.

Type 1 is thought to be caused by a combination of genetic susceptibility and environmental factors, though exactly what those factors are is still unclear. Weight is not believed to be a factor in type 1 diabetes.

### Causes of prediabetes and type 2 diabetes

In prediabetes — which can lead to type 2 diabetes — and in type 2 diabetes, your cells become resistant to the action of insulin, and your pancreas is unable to make enough insulin to overcome this resistance. Instead of moving into your cells where it's needed for energy, sugar builds up in your bloodstream.

Exactly why this happens is uncertain, although it's believed that genetic and environmental factors play a role in the development of type 2 diabetes too. Being overweight is strongly linked to the development of type 2 diabetes, but not everyone with type 2 is overweight.

## Causes of gestational diabetes

During pregnancy, the placenta produces hormones to sustain your pregnancy. These hormones make your cells more resistant to insulin.

Normally, your pancreas responds by producing enough extra insulin to overcome this resistance. But sometimes your pancreas can't keep up. When this happens, too little glucose gets into your cells and too much stays in your blood, resulting in gestational diabetes.

## Risk factors

Risk factors for diabetes depend on the type of diabetes.

### Risk factors for type 1 diabetes

Although the exact cause of type 1 diabetes is unknown, factors that may signal an increased risk include:

- **Family history.** Your risk increases if a parent or sibling has type 1 diabetes.
- **Environmental factors.** Circumstances such as exposure to a viral illness likely play some role in type 1 diabetes.
- **The presence of damaging immune system cells (autoantibodies).** Sometimes family members of people with type 1 diabetes are tested for the presence of diabetes autoantibodies. If you have these autoantibodies, you have an increased risk of developing type 1 diabetes. But not everyone who has these autoantibodies develops diabetes.
- **Geography.** Certain countries, such as Finland and Sweden, have higher rates of type 1 diabetes.

### Risk factors for prediabetes and type 2 diabetes

Researchers don't fully understand why some people develop prediabetes and type 2 diabetes and others don't. It's clear that certain factors increase the risk, however, including:

- **Weight.** The more fatty tissue you have, the more resistant your cells become to insulin.
- **Inactivity.** The less active you are, the greater your risk. Physical activity helps you control your weight, uses up glucose as energy and makes your cells more sensitive to insulin.
- **Family history.** Your risk increases if a parent or sibling has type 2 diabetes.
- **Race.** Although it's unclear why, people of certain races — including black people, Hispanics, American Indians and Asian-Americans — are at higher risk.
- **Age.** Your risk increases as you get older. This may be because you tend to exercise less, lose

Case: 16-16072, 01/31/2019, ID: 11173788, DktEntry: 158-2, Page 12 of 26

muscle mass and gain weight as you age. But type 2 diabetes is also increasing among children, adolescents and younger adults.

- **Gestational diabetes.** If you developed gestational diabetes when you were pregnant, your risk of developing prediabetes and type 2 diabetes later increases. If you gave birth to a baby weighing more than 9 pounds (4 kilograms), you're also at risk of type 2 diabetes.
- **Polycystic ovary syndrome.** For women, having polycystic ovary syndrome — a common condition characterized by irregular menstrual periods, excess hair growth and obesity — increases the risk of diabetes.
- **High blood pressure.** Having blood pressure over 140/90 millimeters of mercury (mm Hg) is linked to an increased risk of type 2 diabetes.
- **Abnormal cholesterol and triglyceride levels.** If you have low levels of high-density lipoprotein (HDL), or "good," cholesterol, your risk of type 2 diabetes is higher. Triglycerides are another type of fat carried in the blood. People with high levels of triglycerides have an increased risk of type 2 diabetes. Your doctor can let you know what your cholesterol and triglyceride levels are.

## Risk factors for gestational diabetes

Any pregnant woman can develop gestational diabetes, but some women are at greater risk than are others. Risk factors for gestational diabetes include:

- **Age.** Women older than age 25 are at increased risk.
- **Family or personal history.** Your risk increases if you have prediabetes — a precursor to type 2 diabetes — or if a close family member, such as a parent or sibling, has type 2 diabetes. You're also at greater risk if you had gestational diabetes during a previous pregnancy, if you delivered a very large baby or if you had an unexplained stillbirth.
- **Weight.** Being overweight before pregnancy increases your risk.
- **Race.** For reasons that aren't clear, women who are black, Hispanic, American Indian or Asian are more likely to develop gestational diabetes.

## Complications

Long-term complications of diabetes develop gradually. The longer you have diabetes — and the less controlled your blood sugar — the higher the risk of complications. Eventually, diabetes complications may be disabling or even life-threatening. Possible complications include:

- **Cardiovascular disease.** Diabetes dramatically increases the risk of various cardiovascular problems, including coronary artery disease with chest pain (angina), heart attack, stroke and narrowing of arteries (atherosclerosis). If you have diabetes, you're more likely to have heart disease or stroke.
- **Nerve damage (neuropathy).** Excess sugar can injure the walls of the tiny blood vessels (capillaries) that nourish your nerves, especially in your legs. This can cause tingling, numbness, burning or pain that usually begins at the tips of the toes or fingers and gradually spreads upward.

Left untreated, you could lose all sense of feeling in the affected limbs. Damage to the nerves related

Case: 16-16072, 01/31/2019, ID: 11173788, DktEntry: 158-2, Page 13 of 26

to digestion can cause problems with nausea, vomiting, diarrhea or constipation. For men, it may lead to erectile dysfunction.

- **Kidney damage (nephropathy).** The kidneys contain millions of tiny blood vessel clusters (glomeruli) that filter waste from your blood. Diabetes can damage this delicate filtering system. Severe damage can lead to kidney failure or irreversible end-stage kidney disease, which may require dialysis or a kidney transplant.
- **Eye damage (retinopathy).** Diabetes can damage the blood vessels of the retina (diabetic retinopathy), potentially leading to blindness. Diabetes also increases the risk of other serious vision conditions, such as cataracts and glaucoma.
- **Foot damage.** Nerve damage in the feet or poor blood flow to the feet increases the risk of various foot complications. Left untreated, cuts and blisters can develop serious infections, which often heal poorly. These infections may ultimately require toe, foot or leg amputation.
- **Skin conditions.** Diabetes may leave you more susceptible to skin problems, including bacterial and fungal infections.
- **Hearing impairment.** Hearing problems are more common in people with diabetes.
- **Alzheimer's disease.** Type 2 diabetes may increase the risk of dementia, such as Alzheimer's disease. The poorer your blood sugar control, the greater the risk appears to be. Although there are theories as to how these disorders might be connected, none has yet been proved.
- **Depression.** Depression symptoms are common in people with type 1 and type 2 diabetes. Depression can affect diabetes management.

## Complications of gestational diabetes

Most women who have gestational diabetes deliver healthy babies. However, untreated or uncontrolled blood sugar levels can cause problems for you and your baby.

**Complications in your baby** can occur as a result of gestational diabetes, including:

- **Excess growth.** Extra glucose can cross the placenta, which triggers your baby's pancreas to make extra insulin. This can cause your baby to grow too large (macrosomia). Very large babies are more likely to require a C-section birth.
- **Low blood sugar.** Sometimes babies of mothers with gestational diabetes develop low blood sugar (hypoglycemia) shortly after birth because their own insulin production is high. Prompt feedings and sometimes an intravenous glucose solution can return the baby's blood sugar level to normal.
- **Type 2 diabetes later in life.** Babies of mothers who have gestational diabetes have a higher risk of developing obesity and type 2 diabetes later in life.
- **Death.** Untreated gestational diabetes can result in a baby's death either before or shortly after birth.

**Complications in the mother** also can occur as a result of gestational diabetes, including:

- **Preeclampsia.** This condition is characterized by high blood pressure, excess protein in the urine, and swelling in the legs and feet. Preeclampsia can lead to serious or even life-threatening complications for both mother and baby.

Case: 16-16072, 01/31/2019, ID: 11173788, DktEntry: 158-2, Page 14 of 26

- **Subsequent gestational diabetes.** Once you've had gestational diabetes in one pregnancy, you're more likely to have it again with the next pregnancy. You're also more likely to develop diabetes — typically type 2 diabetes — as you get older.

## Complications of prediabetes

Prediabetes may develop into type 2 diabetes.

## Prevention

Type 1 diabetes can't be prevented. However, the same healthy lifestyle choices that help treat prediabetes, type 2 diabetes and gestational diabetes can also help prevent them:

- **Eat healthy foods.** Choose foods lower in fat and calories and higher in fiber. Focus on fruits, vegetables and whole grains. Strive for variety to prevent boredom.
- **Get more physical activity.** Aim for 30 minutes of moderate physical activity a day. Take a brisk daily walk. Ride your bike. Swim laps. If you can't fit in a long workout, break it up into smaller sessions spread throughout the day.
- **Lose excess pounds.** If you're overweight, losing even 7 percent of your body weight — for example, 14 pounds (6.4 kilograms) if you weigh 200 pounds (90.7 kilograms) — can reduce the risk of diabetes.

Don't try to lose weight during pregnancy, however. Talk to your doctor about how much weight is healthy for you to gain during pregnancy.

To keep your weight in a healthy range, focus on permanent changes to your eating and exercise habits. Motivate yourself by remembering the benefits of losing weight, such as a healthier heart, more energy and improved self-esteem.

Sometimes medication is an option as well. Oral diabetes drugs such as metformin (Glucophage, Glumetza, others) may reduce the risk of type 2 diabetes — but healthy lifestyle choices remain essential. Have your blood sugar checked at least once a year to check that you haven't developed type 2 diabetes.

By Mayo Clinic Staff

Any use of this site constitutes your agreement to the Terms and Conditions and Privacy Policy linked below.

[Terms and Conditions](#)

[Privacy Policy](#)

[Notice of Privacy Practices](#)

[Notice of Nondiscrimination](#)

[Manage Cookies](#)

Mayo Clinic is a nonprofit organization and proceeds from Web advertising help support our mission. Mayo Clinic does not endorse any of the third party products and services advertised.

[Advertising and sponsorship policy](#)

Advertising and sponsorship opportunities

A single copy of these materials may be reprinted for noncommercial personal use only. "Mayo," "Mayo Clinic," "MayoClinic.org," "Mayo Clinic Healthy Living," and the triple-shield Mayo Clinic logo are trademarks of Mayo Foundation for Medical Education and Research.

---

© 1998-2019 Mayo Foundation for Medical Education and Research (MFMER). All rights reserved.

*cited in American Beverage Assn. v. City & County of San Francisco  
No. 16-16072 archived on January 25, 2019*



# Type 1 diabetes

## Diagnosis

Diagnostic tests include:

- **Glycated hemoglobin (A1C) test.** This blood test indicates your average blood sugar level for the past two to three months. It measures the percentage of blood sugar attached to the oxygen-carrying protein in red blood cells (hemoglobin). The higher your blood sugar levels, the more hemoglobin you'll have with sugar attached. An A1C level of 6.5 percent or higher on two separate tests indicates diabetes.

If the A1C test isn't available, or if you have certain conditions that can make the A1C test inaccurate — such as pregnancy or an uncommon form of hemoglobin (hemoglobin variant) — your doctor may use these tests:

- **Random blood sugar test.** A blood sample will be taken at a random time and may be confirmed by repeat testing. Blood sugar values are expressed in milligrams per deciliter (mg/dL) or millimoles per liter (mmol/L). Regardless of when you last ate, a random blood sugar level of 200 mg/dL (11.1 mmol/L) or higher suggests diabetes, especially when coupled with any of the signs and symptoms of diabetes, such as frequent urination and extreme thirst.
- **Fasting blood sugar test.** A blood sample will be taken after an overnight fast. A fasting blood sugar level less than 100 mg/dL (5.6 mmol/L) is normal. A fasting blood sugar level from 100 to 125 mg/dL (5.6 to 6.9 mmol/L) is considered prediabetes. If it's 126 mg/dL (7 mmol/L) or higher on two separate tests, you have diabetes.

If you're diagnosed with diabetes, your doctor may also run blood tests to check for autoantibodies that are common in type 1 diabetes. These tests help your doctor distinguish between type 1 and type 2 diabetes when the diagnosis is uncertain. The presence of ketones — byproducts from the breakdown of fat — in your urine also suggests type 1 diabetes, rather than type 2.

## After the diagnosis

You'll regularly visit your doctor to discuss diabetes management. During these visits, the doctor will check your A1C levels. Your target A1C goal may vary depending on your age and various other factors, but the American Diabetes Association generally recommends that A1C levels be below 7 percent, which translates to an estimated average glucose of 154 mg/dL (8.5 mmol/L).



Case: 16-16072, 01/31/2019, ID: 11173788, DktEntry: 158-2, Page 17 of 26

Compared with repeated daily blood sugar tests, A1C testing better indicates how well your diabetes treatment plan is working. An elevated A1C level may signal the need for a change in your insulin regimen, meal plan or both.

In addition to the A1C test, the doctor will also take blood and urine samples periodically to check your cholesterol levels, thyroid function, liver function and kidney function. The doctor will also examine you to assess your blood pressure and will check the sites where you test your blood sugar and deliver insulin.

## Treatment

Treatment for type 1 diabetes includes:

- Taking insulin
- Carbohydrate, fat and protein counting
- Frequent blood sugar monitoring
- Eating healthy foods
- Exercising regularly and maintaining a healthy weight

The goal is to keep your blood sugar level as close to normal as possible to delay or prevent complications. Generally, the goal is to keep your daytime blood sugar levels before meals between 80 and 130 mg/dL (4.44 to 7.2 mmol/L) and your after-meal numbers no higher than 180 mg/dL (10 mmol/L) two hours after eating.

## Insulin and other medications

Anyone who has type 1 diabetes needs lifelong insulin therapy.

**Types of insulin** are many and include:

- Short-acting (regular) insulin
- Rapid-acting insulin
- Intermediate-acting (NPH) insulin
- Long-acting insulin

Examples of short-acting (regular) insulin include Humulin R and Novolin R. Rapid-acting insulin examples are insulin glulisine (Apidra), insulin lispro (Humalog) and insulin aspart (Novolog). Long-acting insulins include insulin glargine (Lantus, Toujeo Solostar), insulin detemir (Levemir) and insulin degludec (Tresiba). Intermediate-acting insulins include insulin NPH (Novolin N, Humulin N).

## Insulin administration

Insulin can't be taken orally to lower blood sugar because stomach enzymes will break down the insulin, preventing its action. You'll need to receive it either through injections or an insulin pump.

- **Injections.** You can use a fine needle and syringe or an insulin pen to inject insulin under your skin. Insulin pens look similar to ink pens and are available in disposable or refillable varieties.

Case: 16-16072, 01/31/2019, ID: 11173788, DktEntry: 158-2, Page 18 of 26

If you choose injections, you'll likely need a mixture of insulin types to use throughout the day and night. Multiple daily injections that include a combination of a long-acting insulin combined with a rapid-acting insulin more closely mimic the body's normal use of insulin than do older insulin regimens that only required one or two shots a day. A regimen of three or more insulin injections a day has been shown to improve blood sugar levels.

- **An insulin pump.** You wear this device, which is about the size of a cellphone, on the outside of your body. A tube connects a reservoir of insulin to a catheter that's inserted under the skin of your abdomen. This type of pump can be worn in a variety of ways, such as on your waistband, in your pocket or with specially designed pump belts.

There's also a wireless pump option. You wear a pod that houses the insulin reservoir on your body that has a tiny catheter that's inserted under your skin. The insulin pod can be worn on your abdomen, lower back, or on a leg or an arm. The programming is done with a wireless device that communicates with the pod.

Pumps are programmed to dispense specific amounts of rapid-acting insulin automatically. This steady dose of insulin is known as your basal rate, and it replaces whatever long-acting insulin you were using.

When you eat, you program the pump with the amount of carbohydrates you're eating and your current blood sugar, and it will give you what's called a bolus dose of insulin to cover your meal and to correct your blood sugar if it's elevated. Some research has found that in some people an insulin pump can be more effective at controlling blood sugar levels than injections. But many people achieve good blood sugar levels with injections, too. An insulin pump combined with a continuous glucose monitoring (CGM) device may provide even tighter blood sugar control.

## Artificial pancreas

In September 2016, the Food and Drug Administration approved the first artificial pancreas for people with type 1 diabetes who are age 14 and older. It's also called closed-loop insulin delivery. The implanted device links a continuous glucose monitor, which checks blood sugar levels every five minutes, to an insulin pump. The device automatically delivers the correct amount of insulin when the monitor indicates it's needed.

There are more artificial pancreas (closed loop) systems currently in clinical trials.

## Other medications

Additional medications also may be prescribed for people with type 1 diabetes, such as:

- **High blood pressure medications.** Your doctor may prescribe angiotensin-converting enzyme (ACE) inhibitors or angiotensin II receptor blockers (ARBs) to help keep your kidneys healthy. These medications are recommended for people with diabetes who have blood pressures above 140/90 millimeters of mercury (mm Hg).
- **Aspirin.** Your doctor may recommend you take baby or regular aspirin daily to protect your heart.
- **Cholesterol-lowering drugs.** Cholesterol guidelines tend to be more aggressive for people with

Case: 16-16072, 01/31/2019, ID: 11173788, DktEntry: 158-2, Page 19 of 26

diabetes because of the elevated risk of heart disease. The American Diabetes Association recommends that low-density lipoprotein (LDL, or "bad") cholesterol be below 100 mg/dL (2.6 mmol/L). Your high-density lipoprotein (HDL, or "good") cholesterol is recommended to be over 50 mg/dL (1.3 mmol/L) in women and over 40 mg/dL (1 mmol/L) in men. Triglycerides, another type of blood fat, are ideal when they're less than 150 mg/dL (1.7 mmol/L).

## Blood sugar monitoring

Depending on what type of insulin therapy you select or require, you may need to check and record your blood sugar level at least four times a day.

The American Diabetes Association recommends testing blood sugar levels before meals and snacks, before bed, before exercising or driving, and if you suspect you have low blood sugar. Careful monitoring is the only way to make sure that your blood sugar level remains within your target range — and more frequent monitoring can lower A1C levels.

Even if you take insulin and eat on a rigid schedule, blood sugar levels can change unpredictably. You'll learn how your blood sugar level changes in response to food, activity, illness, medications, stress, hormonal changes and alcohol.

Continuous glucose monitoring (CGM) is the newest way to monitor blood sugar levels, and may be especially helpful for preventing hypoglycemia. When used by people older than 25, the devices have been shown to lower A1C.

Continuous glucose monitors attach to the body using a fine needle just under the skin that checks blood glucose level every few minutes. CGM isn't yet considered as accurate as standard blood sugar monitoring, so at this time it's still important to check your blood sugar levels manually.

## Healthy eating and monitoring carbohydrates

There's no such thing as a diabetes diet. However, it's important to center your diet on nutritious, low-fat, high-fiber foods such as:

- Fruits
- Vegetables
- Whole grains

Your dietitian will recommend that you eat fewer animal products and refined carbohydrates, such as white bread and sweets. This healthy-eating plan is recommended even for people without diabetes.

You'll need to learn how to count the amount of carbohydrates in the foods you eat so that you can give yourself enough insulin to properly metabolize those carbohydrates. A registered dietitian can help you create a meal plan that fits your needs.

## Physical activity

Everyone needs regular aerobic exercise, and people who have type 1 diabetes are no exception. First, get your doctor's OK to exercise. Then choose activities you enjoy, such as walking or swimming, and

Case: 16-16072, 01/31/2019, ID: 11173788, DktEntry: 158-2, Page 20 of 26

make them part of your daily routine. Aim for at least 150 minutes of aerobic exercise a week, with no more than two days without any exercise. The goal for children is at least an hour of activity a day.

Remember that physical activity lowers blood sugar. If you begin a new activity, check your blood sugar level more often than usual until you know how that activity affects your blood sugar levels. You might need to adjust your meal plan or insulin doses to compensate for the increased activity.

## Situational concerns

Certain life circumstances call for different considerations.

- **Driving.** Hypoglycemia can occur at any time. It's a good idea to check your blood sugar anytime you're getting behind the wheel. If it's below 70 mg/dL (3.9 mmol/L), have a snack with 15 grams of carbohydrates. Retest again in 15 minutes to make sure it has risen to a safe level.
- **Working.** Type 1 diabetes can pose some challenges in the workplace. For example, if you work in a job that involves driving or operating heavy machinery, hypoglycemia could pose a serious risk to you and those around you. You may need to work with your doctor and your employer to ensure that certain accommodations are made, such as additional breaks for blood sugar testing and fast access to food and drink. There are federal and state laws in place that require employers to make reasonable accommodations for people with diabetes.
- **Being pregnant.** Because the risk of pregnancy complications is higher for women with type 1 diabetes, experts recommend that women have a preconception evaluation and that A1C readings ideally should be less than 6.5 percent before they attempt to get pregnant.

The risk of birth defects is increased for women with type 1 diabetes, particularly when diabetes is poorly controlled during the first six to eight weeks of pregnancy. Careful management of your diabetes during pregnancy can decrease your risk of complications.

- **Being older.** For those who are frail or sick or have cognitive deficits, tight control of blood sugar may not be practical and could increase the risk of hypoglycemia. For many people with type 1 diabetes, a less stringent A1C goal of less than 8 percent may be appropriate.

## Potential future treatments

- **Pancreas transplant.** With a successful pancreas transplant, you would no longer need insulin. But pancreas transplants aren't always successful — and the procedure poses serious risks. Because these risks can be more dangerous than the diabetes itself, pancreas transplants are generally reserved for those with very difficult-to-manage diabetes, or for people who also need a kidney transplant.
- **Islet cell transplantation.** Researchers are experimenting with islet cell transplantation, which provides new insulin-producing cells from a donor pancreas. Although this experimental procedure had some problems in the past, new techniques and better drugs to prevent islet cell rejection may improve its future chances of becoming a successful treatment.

## Signs of trouble

Despite your best efforts, sometimes problems will arise. Certain short-term complications of type 1

diabetes, such as hypoglycemia, require immediate care.

**Low blood sugar (hypoglycemia).** This occurs when your blood sugar level drops below your target range. Ask your doctor what's considered a low blood sugar level for you. Blood sugar levels can drop for many reasons, including skipping a meal, eating fewer carbohydrates than called for in your meal plan, getting more physical activity than normal or injecting too much insulin.

Learn the symptoms of hypoglycemia, and test your blood sugar if you think your levels are dropping. When in doubt, always test your blood sugar. Early signs and symptoms of low blood sugar include:

- Sweating
- Shakiness
- Hunger
- Dizziness or lightheadedness
- Rapid or irregular heart rate
- Fatigue
- Headaches
- Blurred vision
- Irritability

Later signs and symptoms of low blood sugar, which can sometimes be mistaken for alcohol intoxication in teens and adults, include:

- Lethargy
- Confusion
- Behavior changes, sometimes dramatic
- Poor coordination
- Convulsions

*cited in American Beverage Assn. v. City & County of San Francisco  
No. 16-16072 archived on January 25, 2019*

Nighttime hypoglycemia may cause you to wake with sweat-soaked pajamas or a headache. Due to a natural rebound effect, nighttime hypoglycemia sometimes might cause an unusually high blood sugar reading first thing in the morning, also known as Somogyi effect.

If you have a low blood sugar reading:

- Have 15 to 20 grams of a fast-acting carbohydrate, such as fruit juice, glucose tablets, hard candy, regular (not diet) soda or another source of sugar. Avoid foods with added fat, which don't raise blood sugar as quickly because fat slows sugar absorption.
- Retest your blood sugar in about 15 minutes to make sure it's normal.
- If it's still low, have another 15 to 20 grams of carbohydrate and retest in another 15 minutes.
- Repeat until you get a normal reading.
- Eat a mixed food source, such as peanut butter and crackers, to help stabilize your blood sugar.

If a blood glucose meter isn't readily available, treat for low blood sugar anyway if you have symptoms of

hypoglycemia, and then test as soon as possible.

Left untreated, low blood sugar will cause you to lose consciousness. If this occurs, you may need an emergency injection of glucagon — a hormone that stimulates the release of sugar into the blood. Be sure you always have an unexpired glucagon emergency kit available at home, at work and when you're out. Make sure that co-workers, family and friends know how to use the kit in case you are unable to give yourself the injection.

**Hypoglycemia unawareness.** Some people may lose the ability to sense that their blood sugar levels are getting low, called hypoglycemia unawareness. The body no longer reacts to a low blood sugar level with symptoms such as lightheadedness or headaches. The more you experience low blood sugar, the more likely you are to develop hypoglycemia unawareness. If you can avoid having a hypoglycemic episode for several weeks, you may start to become more aware of impending lows. Sometimes increasing the blood sugar target (for example, from 80 to 120 mg/dL to 100 to 140 mg/dL) at least temporarily can also help improve hypoglycemia awareness.

**High blood sugar (hyperglycemia).** Your blood sugar can rise for many reasons, including eating too much, eating the wrong types of foods, not taking enough insulin or fighting an illness.

Watch for:

- Frequent urination
- Increased thirst
- Blurred vision
- Fatigue
- Irritability
- Hunger
- Difficulty concentrating

*cited in American Beverage Assn. v. City & County of San Francisco  
No. 16-16072 archived on January 25, 2019*

If you suspect hyperglycemia, check your blood sugar. If your blood sugar is higher than your target range, you'll likely need to administer a "correction" — an additional dose of insulin that should bring your blood sugar back to normal. High blood sugar levels don't come down as quickly as they go up. Ask your doctor how long to wait until you recheck. If you use an insulin pump, random high blood sugar readings may mean you need to change the pump site.

If you have a blood sugar reading above 240 mg/dL (13.3 mmol/L), test for ketones using a urine test stick. Don't exercise if your blood sugar level is above 240 mg/dL or if ketones are present. If only a trace or small amounts of ketones are present, drink extra fluids to flush out the ketones.

If your blood sugar is persistently above 300 mg/dL (16.7 mmol/L), or if your urine ketones remain high despite taking appropriate correction doses of insulin, call your doctor or seek emergency care.

**Increased ketones in your urine (diabetic ketoacidosis).** If your cells are starved for energy, your body may begin to break down fat — producing toxic acids known as ketones. Diabetic ketoacidosis is a life-threatening emergency.

Signs and symptoms of this serious condition include:

- Nausea
- Vomiting
- Abdominal pain
- A sweet, fruity smell on your breath
- Weight loss

If you suspect ketoacidosis, check your urine for excess ketones with an over-the-counter ketones test kit. If you have large amounts of ketones in your urine, call your doctor right away or seek emergency care. Also, call your doctor if you have vomited more than once and you have ketones in your urine.

## Lifestyle and home remedies

Careful management of type 1 diabetes can reduce your risk of serious — even life-threatening — complications. Consider these tips:

- **Make a commitment to manage your diabetes.** Take your medications as recommended. Learn all you can about type 1 diabetes. Make healthy eating and physical activity part of your daily routine. Establish a relationship with a diabetes educator, and ask your health care team for help.
- **Identify yourself.** Wear a tag or bracelet that says you have diabetes. Keep a glucagon kit nearby in case of a low blood sugar emergency — and make sure your friends and loved ones know how to use it.
- **Schedule a yearly physical exam and regular eye exams.** Your regular diabetes checkups aren't meant to replace yearly physicals or routine eye exams. During the physical, your doctor will look for any diabetes-related complications, as well as screen for other medical problems. Your eye care specialist will check for signs of retinal damage, cataracts and glaucoma.
- **Keep your vaccinations up to date.** High blood sugar can weaken your immune system. Get a flu shot every year. Your doctor will likely recommend the pneumonia vaccine, as well.

The Centers for Disease Control and Prevention (CDC) recommends hepatitis B vaccination if you haven't previously been vaccinated against hepatitis B and you're an adult ages 19 to 59 with type 1 or type 2 diabetes. The CDC advises vaccination as soon as possible after diagnosis with type 1 or type 2 diabetes. If you are age 60 or older and have diabetes and haven't previously received the vaccine, talk to your doctor about whether it's right for you.

- **Pay attention to your feet.** Wash your feet daily in lukewarm water. Dry them gently, especially between the toes. Moisturize your feet with lotion. Check your feet every day for blisters, cuts, sores, redness or swelling. Consult your doctor if you have a sore or other foot problem that doesn't heal.
- **Keep your blood pressure and cholesterol under control.** Eating healthy foods and exercising regularly can go a long way toward controlling high blood pressure and cholesterol. Medication may be needed, too.
- **If you smoke or use other forms of tobacco, ask your doctor to help you quit.** Smoking increases your risk of diabetes complications, including heart attack, stroke, nerve damage and kidney disease. Talk to your doctor about ways to stop smoking or to stop using other types of tobacco.

Case: 16-16072, 01/31/2019, ID: 11173788, DktEntry: 158-2, Page 24 of 26

- **If you drink alcohol, do so responsibly.** Alcohol can cause either high or low blood sugar, depending on how much you drink and if you eat at the same time. If you choose to drink, do so only in moderation and always with a meal. Check your blood sugar levels before going to sleep.
- **Take stress seriously.** The hormones your body may produce in response to prolonged stress may prevent insulin from working properly, which can stress and frustrate you even more. Take a step back, and set some limits. Prioritize your tasks. Learn relaxation techniques. Get plenty of sleep.

## Coping and support

Diabetes can affect your emotions both directly and indirectly. Poorly controlled blood sugar can directly affect your emotions by causing behavior changes, such as irritability. There may be times you feel resentful about your diabetes.

People with diabetes have an increased risk of depression and diabetes-related distress, which may be why many diabetes specialists regularly include a social worker or psychologist as part of their diabetes care team.

You may find that talking to other people with type 1 diabetes is helpful. Support groups are available both online and in person. Group members often know about the latest treatments and tend to share their own experiences or helpful information, such as where to find carbohydrate counts for your favorite takeout restaurant.

If you're interested in a support group, your doctor may be able to recommend one in your area. Or you can visit the websites of the American Diabetes Association (ADA) or the Juvenile Diabetes Research Foundation (JDRF) for support group information and to check out local activities for people with type 1 diabetes. You can also reach the ADA at 800-DIABETES (800-342-2383) or JDRF at 800-533-CURE (800-533-2873).

## Preparing for your appointment

If you suspect that you or your child might have type 1 diabetes, get evaluated immediately. A simple blood test can let your doctor know if you need further evaluation and treatment.

After diagnosis, you'll need close medical follow-up until your blood sugar level stabilizes. A doctor who specializes in hormonal disorders (endocrinologist) generally coordinates diabetes care. Your health care team will likely include:

- Certified diabetes educator
- Dietitian
- Social worker or mental health professional
- Pharmacist
- Dentist
- Certified diabetes educator
- Doctor who specializes in eye care (ophthalmologist)



Doctor who specializes in foot health (podiatrist)

Once you've learned the basics of managing type 1 diabetes, your endocrinologist likely will recommend checkups every few months. A thorough yearly exam and regular foot and eye exams also are important — especially if you're having a hard time managing your diabetes, if you have high blood pressure or kidney disease, or if you're pregnant.

These tips can help you prepare for your appointments and know what to expect from your doctor.

## What you can do

- **Write down any questions you have as they occur.** Once you begin insulin treatment, the initial symptoms of diabetes should go away. However, you may have new issues that you need to address, such as recurring low blood sugar episodes or how to address high blood sugar after eating certain foods.
- **Write down key personal information**, including any major stresses or recent life changes. Many factors can affect your diabetes control, including stress.
- **Make a list of all medications**, vitamins and supplements you're taking.
- **For your regular checkups**, bring a book with your recorded glucose values or your meter to your appointments.
- **Write down questions to ask your doctor.**

Preparing a list of questions can help you make the most of your time with your doctor and the rest of your health care team. For type 1 diabetes, topics you want to clarify with your doctor, dietitian or diabetes educator include:

- The frequency and timing of blood glucose monitoring
- Insulin therapy — types of insulin used, timing of dosing, amount of dose
- Insulin administration — shots versus a pump
- Low blood sugar — how to recognize and treat
- High blood sugar — how to recognize and treat
- Ketones — testing and treatment
- Nutrition — types of food and their effect on blood sugar
- Carbohydrate counting
- Exercise — adjusting insulin and food intake for activity
- Medical management — how often to visit the doctor and other diabetes care specialists
- Sick day management

## What to expect from your doctor

Your doctor is likely to ask you a number of questions, including:

- How comfortable are you managing your diabetes?

Case: 16-16072, 01/31/2019, ID: 11173788, DktEntry: 158-2, Page 26 of 26

How frequent are your low blood sugar episodes?

- Are you aware of when your blood sugar is getting low?
- What's a typical day's diet like?
- Are you exercising? If so, how often?
- On average, how much insulin are you using daily?

## What you can do in the meantime

If you're having trouble managing your blood sugar or you have questions, don't hesitate to contact your health care team in between appointments.

By Mayo Clinic Staff

---

Any use of this site constitutes your agreement to the Terms and Conditions and Privacy Policy linked below.

[Terms and Conditions](#)

[Privacy Policy](#)

[Notice of Privacy Practices](#)

[Notice of Nondiscrimination](#)

[Manage Cookies](#)

Mayo Clinic is a nonprofit organization and proceeds from Web advertising help support our mission. Mayo Clinic does not endorse any of the third party products and services advertised.

[Advertising and sponsorship policy](#)

[Advertising and sponsorship opportunities](#)

A single copy of these materials may be reprinted for noncommercial personal use only. "Mayo," "Mayo Clinic," "MayoClinic.org," "Mayo Clinic Healthy Living," and the triple-shield Mayo Clinic logo are trademarks of Mayo Foundation for Medical Education and Research.

---

© 1998-2019 Mayo Foundation for Medical Education and Research (MFMER). All rights reserved.

**United States Court of Appeals for the Ninth Circuit**

**Office of the Clerk**  
95 Seventh Street  
San Francisco, CA 94103

**Information Regarding Judgment and Post-Judgment Proceedings****Judgment**

- This Court has filed and entered the attached judgment in your case. Fed. R. App. P. 36. Please note the filed date on the attached decision because all of the dates described below run from that date, not from the date you receive this notice.

**Mandate (Fed. R. App. P. 41; 9th Cir. R. 41-1 & -2)**

- The mandate will issue 7 days after the expiration of the time for filing a petition for rehearing or 7 days from the denial of a petition for rehearing, unless the Court directs otherwise. To file a motion to stay the mandate, file it electronically via the appellate ECF system or, if you are a pro se litigant or an attorney with an exemption from using appellate ECF, file one original motion on paper.

**Petition for Panel Rehearing (Fed. R. App. P. 40; 9th Cir. R. 40-1)****Petition for Rehearing En Banc (Fed. R. App. P. 35; 9th Cir. R. 35-1 to -3)****(1) A. Purpose (Panel Rehearing):**

- A party should seek panel rehearing only if one or more of the following grounds exist:
  - ▶ A material point of fact or law was overlooked in the decision;
  - ▶ A change in the law occurred after the case was submitted which appears to have been overlooked by the panel; or
  - ▶ An apparent conflict with another decision of the Court was not addressed in the opinion.
- Do not file a petition for panel rehearing merely to reargue the case.

**B. Purpose (Rehearing En Banc)**

- A party should seek en banc rehearing only if one or more of the following grounds exist:

- ▶ Consideration by the full Court is necessary to secure or maintain uniformity of the Court's decisions; or
- ▶ The proceeding involves a question of exceptional importance; or
- ▶ The opinion directly conflicts with an existing opinion by another court of appeals or the Supreme Court and substantially affects a rule of national application in which there is an overriding need for national uniformity.

**(2) Deadlines for Filing:**

- A petition for rehearing may be filed within 14 days after entry of judgment. Fed. R. App. P. 40(a)(1).
- If the United States or an agency or officer thereof is a party in a civil case, the time for filing a petition for rehearing is 45 days after entry of judgment. Fed. R. App. P. 40(a)(1).
- If the mandate has issued, the petition for rehearing should be accompanied by a motion to recall the mandate.
- *See* Advisory Note to 9th Cir. R. 40-1 (petitions must be received on the due date).
- An order to publish a previously unpublished memorandum disposition extends the time to file a petition for rehearing to 14 days after the date of the order of publication or, in all civil cases in which the United States or an agency or officer thereof is a party, 45 days after the date of the order of publication. 9th Cir. R. 40-2.

**(3) Statement of Counsel**

- A petition should contain an introduction stating that, in counsel's judgment, one or more of the situations described in the "purpose" section above exist. The points to be raised must be stated clearly.

**(4) Form & Number of Copies (9th Cir. R. 40-1; Fed. R. App. P. 32(c)(2))**

- The petition shall not exceed 15 pages unless it complies with the alternative length limitations of 4,200 words or 390 lines of text.
- The petition must be accompanied by a copy of the panel's decision being challenged.
- An answer, when ordered by the Court, shall comply with the same length limitations as the petition.
- If a pro se litigant elects to file a form brief pursuant to Circuit Rule 28-1, a petition for panel rehearing or for rehearing en banc need not comply with Fed. R. App. P. 32.

Case: 16-16072, 01/31/2019, ID: 11173788, DktEntry: 158-3, Page 3 of 4

- The petition or answer must be accompanied by a Certificate of Compliance found at Form 11, available on our website at [www.ca9.uscourts.gov](http://www.ca9.uscourts.gov) under *Forms*.
- You may file a petition electronically via the appellate ECF system. No paper copies are required unless the Court orders otherwise. If you are a pro se litigant or an attorney exempted from using the appellate ECF system, file one original petition on paper. No additional paper copies are required unless the Court orders otherwise.

#### **Bill of Costs (Fed. R. App. P. 39, 9th Cir. R. 39-1)**

- The Bill of Costs must be filed within 14 days after entry of judgment.
- See Form 10 for additional information, available on our website at [www.ca9.uscourts.gov](http://www.ca9.uscourts.gov) under *Forms*.

#### **Attorneys Fees**

- Ninth Circuit Rule 39-1 describes the content and due dates for attorneys fees applications.
- All relevant forms are available on our website at [www.ca9.uscourts.gov](http://www.ca9.uscourts.gov) under *Forms* or by telephoning (415) 355-7806.

#### **Petition for a Writ of Certiorari**

- Please refer to the Rules of the United States Supreme Court at [www.supremecourt.gov](http://www.supremecourt.gov)

#### **Counsel Listing in Published Opinions**

- Please check counsel listing on the attached decision.
- If there are any errors in a published opinion, please send a letter **in writing within 10 days** to:
  - ▶ Thomson Reuters; 610 Opperman Drive; PO Box 64526; Eagan, MN 55123 (Attn: Jean Green, Senior Publications Coordinator);
  - ▶ and electronically file a copy of the letter via the appellate ECF system by using “File Correspondence to Court,” or if you are an attorney exempted from using the appellate ECF system, mail the Court one copy of the letter.

**UNITED STATES COURT OF APPEALS  
FOR THE NINTH CIRCUIT**

**Form 10. Bill of Costs**

*Instructions for this form: <http://www.ca9.uscourts.gov/forms/form10instructions.pdf>*

**9th Cir. Case Number(s)**

**Case Name**

The Clerk is requested to award costs to (*party name(s)*):

I swear under penalty of perjury that the copies for which costs are requested were actually and necessarily produced, and that the requested costs were actually expended.

**Signature**

**Date**

*(use "s/[typed name]" to sign electronically-filed documents)*

<b>COST TAXABLE</b>	<b>REQUESTED</b> <i>(each column must be completed)</i>			
DOCUMENTS / FEE PAID	No. of Copies	Pages per Copy	Cost per Page	TOTAL COST
Excerpts of Record*	<input style="width: 90%; height: 20px;" type="text"/>	<input style="width: 90%; height: 20px;" type="text"/>	\$ <input style="width: 90%; height: 20px;" type="text"/>	\$ <input style="width: 90%; height: 20px;" type="text"/>
Principal Brief(s) ( <i>Opening Brief; Answering Brief; 1st, 2nd, and/or 3rd Brief on Cross-Appeal; Intervenor Brief</i> )	<input style="width: 90%; height: 20px;" type="text"/>	<input style="width: 90%; height: 20px;" type="text"/>	\$ <input style="width: 90%; height: 20px;" type="text"/>	\$ <input style="width: 90%; height: 20px;" type="text"/>
Reply Brief / Cross-Appeal Reply Brief	<input style="width: 90%; height: 20px;" type="text"/>	<input style="width: 90%; height: 20px;" type="text"/>	\$ <input style="width: 90%; height: 20px;" type="text"/>	\$ <input style="width: 90%; height: 20px;" type="text"/>
Supplemental Brief(s)	<input style="width: 90%; height: 20px;" type="text"/>	<input style="width: 90%; height: 20px;" type="text"/>	\$ <input style="width: 90%; height: 20px;" type="text"/>	\$ <input style="width: 90%; height: 20px;" type="text"/>
Petition for Review Docket Fee / Petition for Writ of Mandamus Docket Fee				\$ <input style="width: 90%; height: 20px;" type="text"/>
<b>TOTAL:</b>				\$ <input style="width: 90%; height: 20px;" type="text"/>

**\*Example:** Calculate 4 copies of 3 volumes of excerpts of record that total 500 pages [Vol. 1 (10 pgs.) + Vol. 2 (250 pgs.) + Vol. 3 (240 pgs.)] as:

No. of Copies: 4; Pages per Copy: 500; Cost per Page: \$.10 (or actual cost IF less than \$.10);

TOTAL: 4 x 500 x \$.10 = \$200.

*Feedback or questions about this form? Email us at [forms@ca9.uscourts.gov](mailto:forms@ca9.uscourts.gov)*