



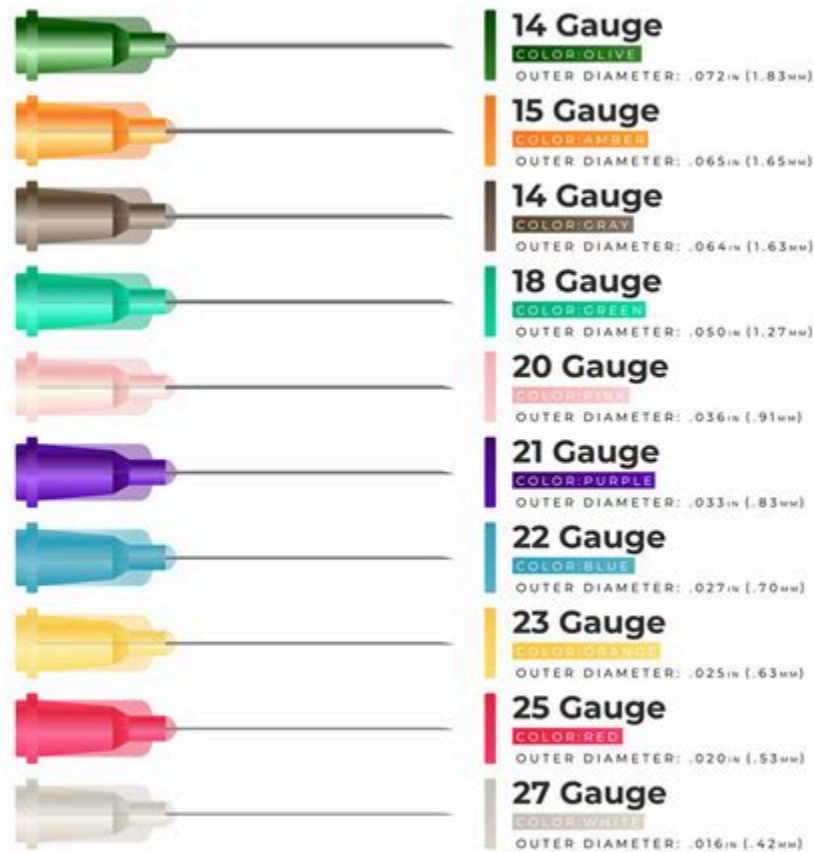
The gauge (abbreviated as "G") of a needle refers to the size of the hole in the needle. The higher the gauge, the smaller the hole. Needles come in various gauges and lengths. The length of a needle is listed after the gauge number. For example, 25G 1/2 refers to a 25 gauge, 1/2 inch-long needle. Longer needles (1/2 inch or longer .



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# PDF Vaccine Administration: Needle Gauge and Length - Centers for Disease .

## NEEDLE GAUGES FOR INJECTIONS CHART SIZE



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Needle gauge sizes refer to the size of a needle, which is determined by the diameter of the shaft. A larger gauge number indicates a smaller needle size, while a smaller gauge number indicates a larger needle size. Needles are measured in gauges ranging from 12 (the largest) to 33 (the smallest).

## Needle Gauge Chart | Syringe Needle Gauge Chart | Hamilton



23-Gauge Needle As mentioned earlier, the larger the gauge number, the smaller the needle size. So, the 23G needle is quite small and commonly known as a "butterfly needle". A medical professional uses this needle to draw blood or to try and access a vein in order to give intravenous injections.

# Know Your Pen Needles Length & Gauge | Novo Nordisk Needles



Insupen range:  
**Maximum performance, minimum pain.**

Gauge	Length	Pinch	Angle
33G (0.20mm)	4 mm	no pinch	90°
32G (0.23mm)	4 mm	no pinch	45°
32G (0.23mm)	6 mm	no pinch	45°
32G (0.23mm)	8 mm	no pinch	45°
31G (0.25mm)	5 mm	pinch	90°
31G (0.25mm)	6 mm	pinch	90°
31G (0.25mm)	8 mm	pinch	90°
30G (0.30mm)	8 mm	pinch	90°
29G (0.33mm)	12 mm	pinch	45°



Continuous technological development and expertise in needle design have led to the creation of PiC Insupen, a comprehensive and advanced range of pen needles in terms of pain reduction. PiC Insupen is the pen needles range that matches the reduction of the needle outer diameter with a broad variety of lengths in order to meet every injection need.

By Associated Press. |. April 28, 2023, at 12:41 a. m. Russian Missile and Drone Attack in Ukraine Kills 23 People. Firefighters carry a body recovered from the rubble of a residential building .

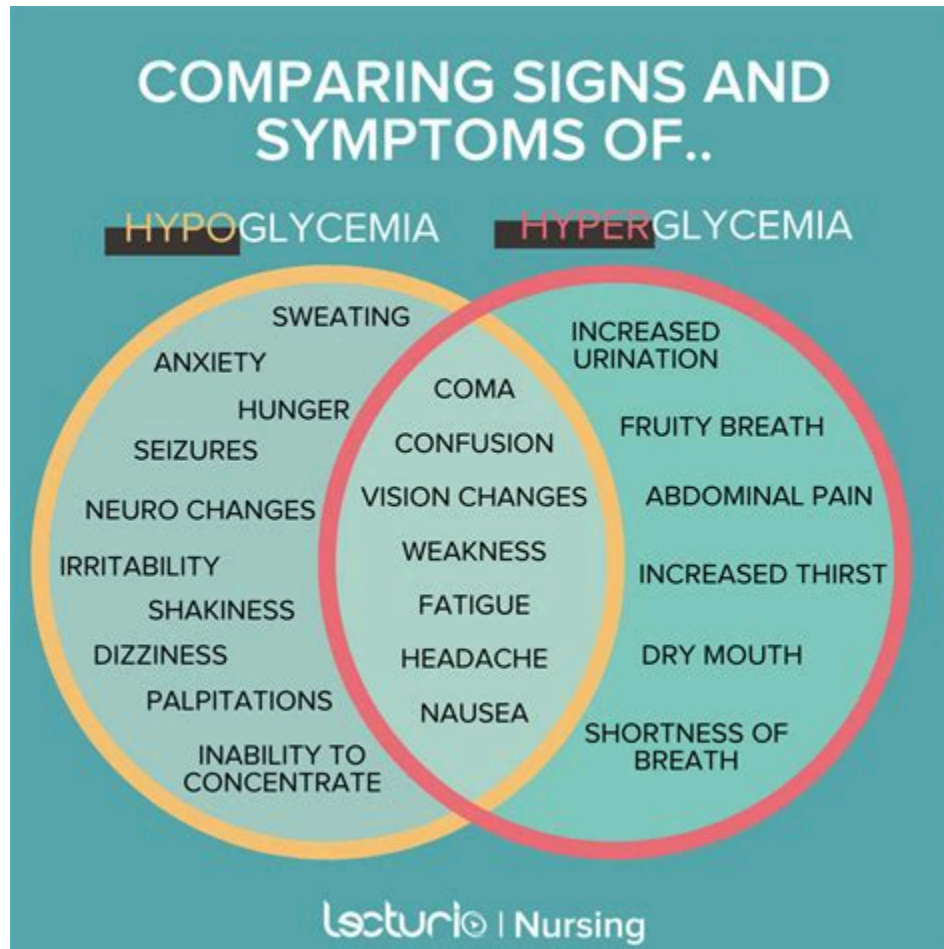
**Kyiv hit with 'cruise or ballistic missiles' as Russia attempts to .**





When selecting needle gauge sizes, it is important to keep in mind the volume of the syringe and the dead volume of the needle. For example, it will be very difficult to prime a 10  $\mu$ L syringe if the dead volume in the needle is greater than 10  $\mu$ L.

## Needle Gauges [+ Free Cheat Sheet] | Lecturio Nursing





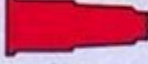
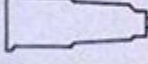
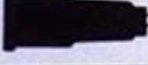
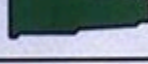
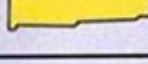
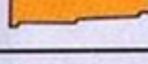
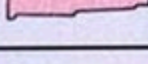
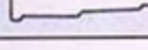
The gauge of a syringe needle is the thickness of the needle. The most common needle gauges are 22, 23, and 25. The larger the number, the thinner the needle. The gauge numbers and needles are inversely related. As the gauge number grows, the needle width narrows. There is no common gauge size for each Phlebomedicine patient.

## Ukraine Repels Large Russian Drone Attack on Kyiv - The New York Times



Kyiv (also spelled Kiev) [a] is the capital and most populous city of Ukraine. It is in north-central Ukraine along the Dnieper River. As of 1 January 2022, its population was 2,952,301, [2] making Kyiv the seventh-most populous city in Europe. [11] Kyiv is an important industrial, scientific, educational, and cultural center in Eastern Europe .

## Needle gauge table- Darwin Microfluidics

SPECIFICATION		
COLOR CODE	GAUGE LENGTH	
	26G(0.45mm)	1 / 2" (13mm)
	25G(0.5mm)	5 / 8" (16mm)
	24G(0.55mm)	3 / 4" (19mm) 1" (25mm)
	23G(0.6mm)	1" (25mm) 3 / 4" (19mm) 1 3 / 4" (32mm)
	22G(0.7mm)	1" (25mm) 1 1 / 4" (32mm) 1 1 / 2" (38mm)
	21G(0.8mm)	1" (25mm) 1 1 / 4" (32mm) 1 1 / 2" (38mm)
	20G(0.9mm)	1 1 / 4" (32mm) 1 1 / 2" (38mm)
	19G(1.1mm)	1 1 / 4" (32mm) 1 1 / 2" (38mm)
	18G(1.2mm)	1 1 / 4" (32mm) 1 1 / 2" (38mm)
	17G(1.3mm)	1 1 / 2" (38mm)

The appropriate needle gauge and length are determined by a number of factors, including the target tissue, injection formulation, and patient population. For example, venipuncture requires the use of needles typically as large as 22-21 gauge inserted to depths of 25-38 mm to withdraw milliliters of blood. 3 In contrast, vaccines usually .

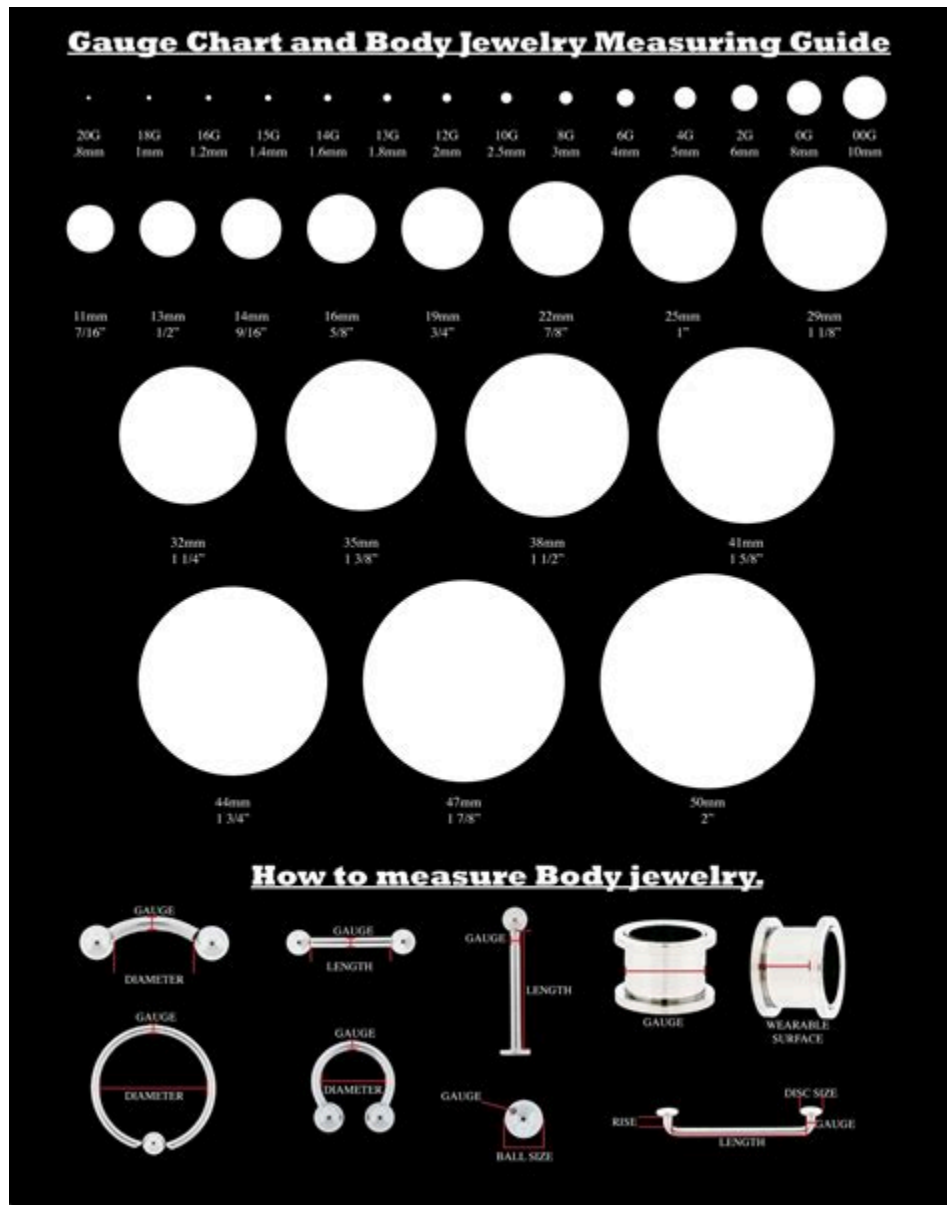
## Does Needle Size Matter? - PMC - National Center for Biotechnology .



(19 years and older) The following table outlines recommended needle gauges and lengths. In addition, clinical judgment should be used when selecting needles to administer injectable vaccines. Route  
Subcutaneous injection Intramuscular injection Age All ages Neonate, 28 days and younger Infants,  
1-12 months Toddlers, 1-2 years Children, 3-10 years



## Gauge Size Guide - Allevi



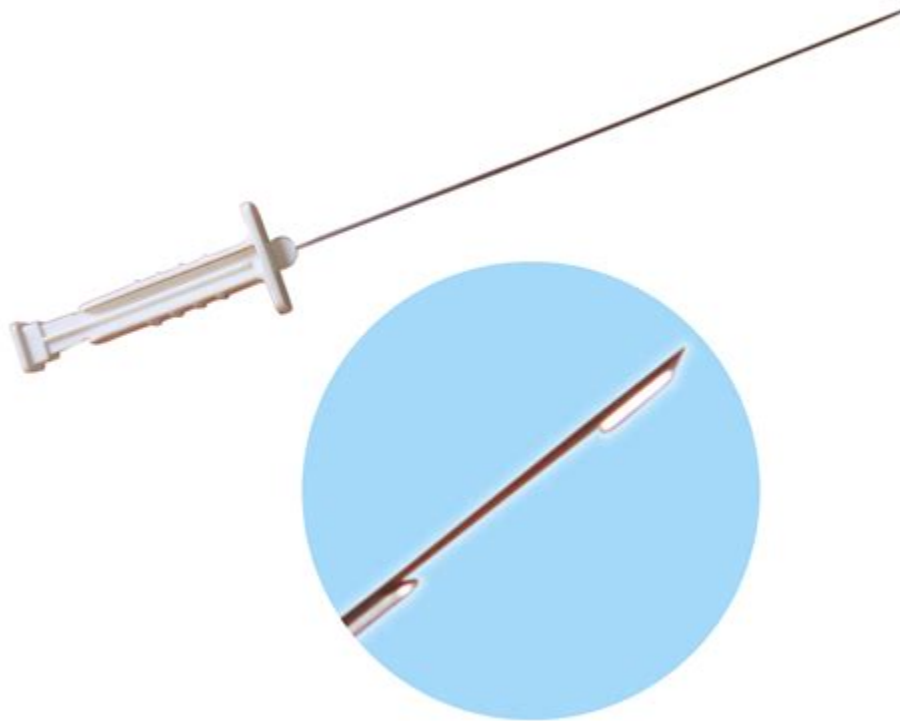
In general for IM (intramuscular) injections you would use a 21 to 23 gauge needle 1 to 1.5 inches long for an adult. In a child you use a 1 inch long, 25 to 27 gauge needle. In obese patients, 1.5 to 2 inch needles may be necessary. \*\*

## Russian Missile and Drone Attack in Ukraine Kills 23 People



One of our best selling products is the 23 gauge, HYPO-25 needles. The standard length are 1 inch with green colored hubs. These HYPO products are best for medium-thin liquids such as Weld-on (cyanoacrylate acrylic cement), thin epoxy, and acrylic paint. These needles are available in 3 inch and a special 6 inch length for hard to reach places.

### A 19-gauge fine-needle biopsy needle compared with a 22-gauge fine .



What are the different types of syringes? What to keep in mind when choosing a syringe?  
Recommended needle and syringe sizes for infants and children Recommended needle and syringe sizes for adults They are also used to draw blood and other body fluids for testing.

## Deciding which Needle Size to Use - Gaunt Industries



05 Jul, 2021 Tags Find the perfect needle gauge for your microfluidics applications with our needle gauge table, including inner and outer diameters in inches and millimeters.

## Needle Gauges for Injections Size Chart - NCLEX Quiz

# Needle Gauges for Injections Size Chart

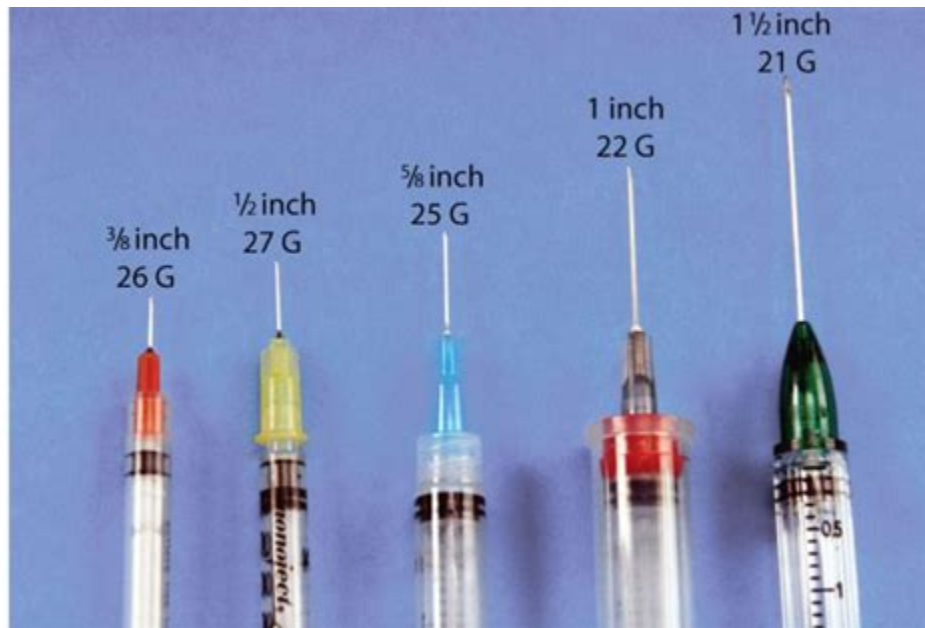
	<b>14 GAUGE</b> COLOR: OLIVE OUTER DIAMETER: .072IN (1.83MM)
	<b>15 GAUGE</b> COLOR: AMBER OUTER DIAMETER: .065IN (1.65MM)
	<b>16 GAUGE</b> COLOR: GRAY OUTER DIAMETER: .064IN (1.63MM)
	<b>18 GAUGE</b> COLOR: GREEN OUTER DIAMETER: .050IN (1.27MM)
	<b>20 GAUGE</b> COLOR: PINK OUTER DIAMETER: .036IN (.91MM)
	<b>21 GAUGE</b> COLOR: PURPLE OUTER DIAMETER: .033IN (.83MM)
	<b>22 GAUGE</b> COLOR: BLUE OUTER DIAMETER: .027IN (.70MM)
	<b>23 GAUGE</b> COLOR: ORANGE OUTER DIAMETER: .025IN (.63MM)
	<b>25 GAUGE</b> COLOR: RED OUTER DIAMETER: .020IN (.53MM)
	<b>27 GAUGE</b> COLOR: WHITE OUTER DIAMETER: .016IN (.42MM)

## Types of Needles for Injection

By Marc Santora and Andrés R. Martínez. May 27, 2023. Explosions echoed across Ukraine's capital for hours before dawn on Sunday as air defense teams raced to combat the largest swarm of .



## How To Determine The Size Of A Syringe Needle



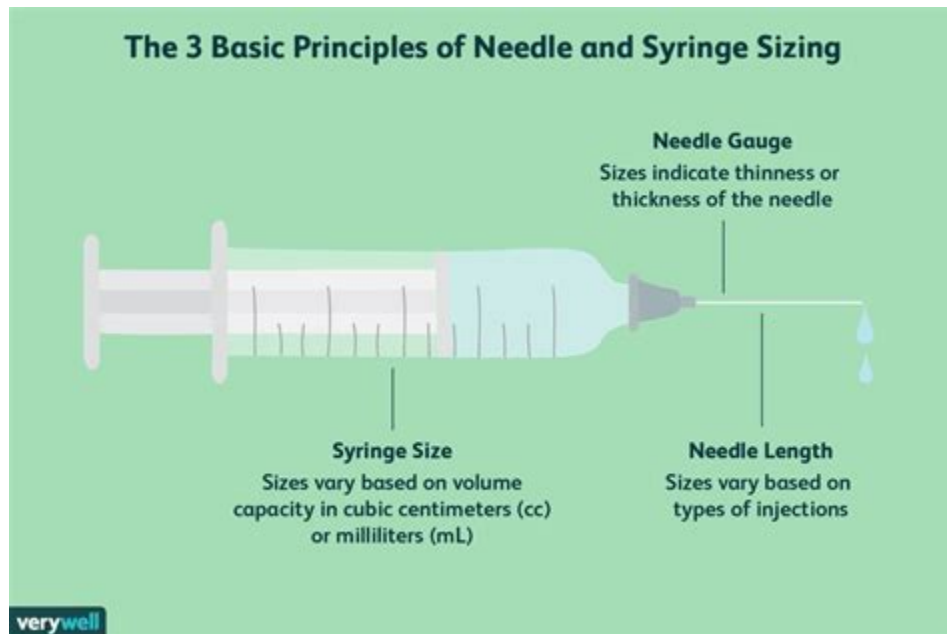
Most adults who are healthy have plump and bouncy veins. Those veins are usually big enough for the use of a 21 gauge needle. The hole of the 21 gauge is wide and it allows the cells in the blood to pass through the needle quickly without damage. I have been surprised many times how fast blood flows through the 21 gauge needle.

### Does size matter when it comes to needles? - McGill University



The color of a needle is a coding system used to easily identify the gauge, or thickness, of the needle. This color coding varies by manufacturer, so make sure to double-check. Here are some common colors and their corresponding gauges: Amber: 15 gauge. Orange: 23 gauge. Purple: 21 gauge.

## How to Choose a Syringe and Needle for an Injection - Verywell Health



A 19-gauge fine-needle biopsy needle compared with a 22-gauge fine-needle biopsy needle for EUS-guided liver biopsy: a prospective randomized study *Gastrointest Endosc.* 2023 Dec 21:S0016-5107(23)03166-8. doi: 10.1016/j.gie.2023.12.022. Online ahead of print. Authors David L Diehl 1 .

## Is a 22-Gauge Needle a Big Needle Size? - Med on the Go



23 Gauge Needles / 23g Needles. Medical professionals choose the 23 gauge needle for injecting hormones, steroids and other liquids into muscle tissue. This gauge with a longer length is also effective for spinal injections. Stout enough to infiltrate tough tissues yet slim enough to reduce discomfort, this size hypodermic needle is a mainstay .




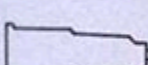
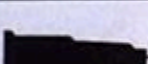

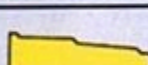
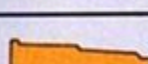
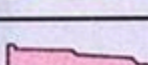
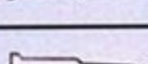
## Needle Selection: 3 Most Common Sizes Used For Blood Draws



The first number in front of the letter G indicates the gauge of the needle. The higher the number, the thinner the needle. The second number indicates the length of the needle in inches. Here's an example: A 22 G 1/2 needle has a gauge of 22 and a length of half an inch. Needle Gauge



## Needle Gauge Size Chart - E Phlebotomy Training

SPECIFICATION		
COLOR CODE	GAUGE LENGTH	
	26G(0.45mm)	1 / 2" (13mm)
	25G(0.5mm)	5 / 8" (16mm)
	24G(0.55mm)	3 / 4" (19mm) 1" (25mm)
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	19G(1.1mm)	1 1 / 4" (32mm) 1 1 / 2" (38mm)
	18G(1.2mm)	1 1 / 4" (32mm) 1 1 / 2" (38mm)
	17G(1.3mm)	1 1 / 2" (38mm)

Watch this video and make your classmates jealous. Needles are universal so no matter where you go in the United States, the needle sizes will correlate with colors. Know that the larger the number, the smaller the needle will be. An 18 gauge needle would be larger than a 25 gauge needle. Remember your safety precautions when handling needles!

## 23 Gauge Needles | 23G Needle | 23 Ga Needles - CIA Medical



You can tell a needle's thickness by looking at its gauge (G). You might think the higher the number, the thicker the needle, but it's actually the opposite. The higher the number, the thinner the needle is. For example, 32G needles, like those available with NovoFine® and NovoFine® Plus, are thinner than a 27G needle.

## Size Does Matter: Needle Sizes & Gauges - QD Nurses



As did this study, which compared 27-gauge vs 23-gauge vs 21-gauge. For injecting Botox around patients' eyes, this study found no difference in pain scores between a 32-gauge and a 30-gauge needle. These are by no means all of the studies on needle size and pain, but they are representative of the scientific literature on this topic.

# PDF Needle Gauge Resource List - MN Dept. of Health

Reportable Diseases, MN Rules 4605.7000 to 4605.7900

## Diseases Reportable to the Minnesota Department of Health

651-201-5414 or 1-877-676-5414 24 hours a day, 7 days a week

REPORT IMMEDIATELY BY TELEPHONE

<p><b>Anthrax</b> (<i>Bacillus anthracis</i>) ①</p> <p><b>Botulism</b> (<i>Clostridium botulinum</i>)</p> <p><b>Brucellosis</b> (<i>Brucella</i> spp.) ①</p> <p><b>Cholera</b> (<i>Vibrio cholerae</i>) ①</p> <p><b>Diphtheria</b> (<i>Corynebacterium diphtheriae</i>) ①</p> <p><b>Free-living amoebic infection</b> ① (including at least: <i>Acanthamoeba</i> spp., <i>Naegleria fowleri</i>, <i>Balamuthia</i> spp., <i>Sappinia</i> spp.)</p> <p><b>Glanders</b> (<i>Burkholderia mallei</i>) ①</p> <p><b>Hemolytic uremic syndrome</b> ①</p> <p><b>Measles</b> (<i>rubeola</i>) ①</p> <p><b>Melioidosis</b> (<i>Burkholderia pseudomallei</i>) ①</p> <p><b>Meningococcal disease</b> (<i>Neisseria meningitidis</i>) (invasive) ①, ②</p>	<p><b>Middle East Respiratory Syndrome (MERS)</b> ①</p> <p><b>Orthopox virus</b> ①</p> <p><b>Plague</b> (<i>Yersinia pestis</i>) ①</p> <p><b>Polio/myelitis</b> ①</p> <p><b>Q fever</b> (<i>Coxiella burnetii</i>) ①</p> <p><b>Rabies</b> (animal and human cases and suspected cases)</p> <p><b>Rubella and congenital rubella syndrome</b> ①</p> <p><b>Severe Acute Respiratory Syndrome (SARS)</b> ①, ②</p> <p><b>Smallpox</b> (varial) ①</p> <p><b>Tularemia</b> (<i>Francisella tularensis</i>) ①</p> <p><b>Unusual or increased case incidence of any suspect infectious illness</b> ①</p> <p><b>Viral hemorrhagic fever</b> ① (including but not limited to Ebola virus disease and Lassa fever)</p>
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REPORT WITHIN ONE WORKING DAY

<p><b>Amebiasis</b> (<i>Entamoeba histolytica/dispar</i>)</p> <p><b>Anaplasmosis</b> (<i>Anaplasma phagocytophilum</i>)</p> <p><b>Arboviral disease</b> (including, but not limited to, La Crosse encephalitis, eastern equine encephalitis, western equine encephalitis, St. Louis encephalitis, West Nile virus disease, Powassan virus disease, and Jamestown Canyon virus disease)</p> <p><b>Babesiosis</b> (<i>Babesia</i> spp.)</p> <p><b>Blastomycosis</b> (<i>Blastomyces dermatitidis</i>)</p> <p><b>Campylobacteriosis</b> (<i>Campylobacter</i> spp.) ①</p> <p><b>Candida auris</b> ①</p> <p><b>Carbapenem-resistant Enterobacteriaceae (CRE)</b> ①</p> <p><b>Cat scratch disease</b> (infection caused by <i>Bartonella</i> species)</p> <p><b>Chancroid</b> (<i>Histophilus ducreyi</i>)</p> <p><b>Chikungunya virus disease</b></p> <p><b>Chlamydia trachomatis infections</b></p> <p><b>Coccidioidomycosis</b></p> <p><b>Cronobacter spizizenii</b> in infants under one year of age ①</p> <p><b>Cryptosporidiosis</b> (<i>Cryptosporidium</i> spp.) ①</p> <p><b>Cytomegalovirus</b> (<i>Cytomegalo</i> spp.) ①</p> <p><b>Dengue virus infection</b></p> <p><b>Diphyllobothrium latum</b> infection</p> <p><b>Ehrlichiosis</b> (<i>Ehrlichia</i> spp.)</p> <p><b>Encephalitis</b> (caused by viral agents)</p> <p><b>Enteric Escherichia coli infection</b> ① (<i>E. coli</i> O157:H7, other Shiga toxin-producing <i>E. coli</i>, enterohemorrhagic <i>E. coli</i>, enteropathogenic <i>E. coli</i>, enteroinvasive <i>E. coli</i>, enteraggregative <i>E. coli</i>, enterotoxigenic <i>E. coli</i>, or other pathogenic <i>E. coli</i>)</p> <p><b>Giardiasis</b> (<i>Giardia intestinalis</i>)</p> <p><b>Gonorrhea</b> (<i>Neisseria gonorrhoeae</i> infections)</p> <p><b>Influenza A virus infection</b> (all invasive disease) ①, ②</p> <p><b>Hantavirus infection</b></p> <p><b>Hepatitis</b> (all primary viral types including A, B, C, D, and E) ①</p> <p><b>Histoplasmosis</b> (<i>Histoplasma capsulatum</i>)</p> <p><b>Human immunodeficiency virus (HIV) infection</b>, including Acquired Immunodeficiency Syndrome (AIDS) ①</p> <p><b>Influenza</b> ① (unusual case incidence, critical illness, or laboratory-confirmed cases)</p> <p><b>Kawasaki disease</b></p> <p><b>Klebsiella</b> spp. (invasive only) ①, ②</p> <p><b>Legionellosis</b> (<i>Legionella</i> spp.) ①</p> <p><b>Leprosy</b> (Hansen's disease) (<i>Mycobacterium leprae</i>)</p> <p><b>Leptospirosis</b> (<i>Leptospira interrogans</i>)</p>	<p><b>Listeriosis</b> (<i>Listeria monocytogenes</i>) ①</p> <p><b>Lyme disease</b> (<i>Borrelia burgdorferi</i>, and other <i>Borrelia</i> spp.)</p> <p><b>Malaria</b> (<i>Plasmodium</i> spp.)</p> <p><b>Meningitis</b> (caused by viral agents)</p> <p><b>Mumps</b> ①</p> <p><b>Neonatal sepsis</b> ①, ② (bacteria isolated from a sterile site, excluding coagulase-negative <i>Staphylococcus</i> less than seven days after birth)</p> <p><b>Pertussis</b> (<i>Bordetella pertussis</i>) ①</p> <p><b>Psittacosis</b> (<i>Chlamydia psittaci</i>) ①</p> <p><b>Rotavirus infections</b></p> <p><b>Salmonellosis</b>, including typhoid (<i>Salmonella</i> spp.) ①</p> <p><b>Shigellosis</b> (<i>Shigella</i> spp.) ①</p> <p><b>Spotted fever rickettsiosis</b> (<i>Rickettsia</i> spp. infections, including Rocky Mountain spotted fever)</p> <p><b>Staphylococcus aureus</b> ① (only vancomycin-intermediate <i>Staphylococcus aureus</i> [VISA], vancomycin-resistant <i>Staphylococcus aureus</i> [VRSA], and death or critical illness due to community-associated <i>Staphylococcus aureus</i> in a previously healthy individual)</p> <p><b>Streptococcal disease - invasive disease</b> caused by Groups A and B streptococci and <i>S. pneumoniae</i> ①</p> <p><b>Streptococcal disease - non-invasive <i>S. pneumoniae</i></b> (urine antigen laboratory-confirmed pneumonia)</p> <p><b>Typhoid</b> (<i>Salmonella typhi</i>) ①</p> <p><b>Tetanus</b> (<i>Clostridium tetani</i>)</p> <p><b>Toxic shock syndrome</b> ①</p> <p><b>Toxoplasmosis</b> (<i>Toxoplasma gondii</i>)</p> <p><b>Transmissible spongiform encephalopathy</b></p> <p><b>Trichinosis</b> (<i>Trichinella spiralis</i>)</p> <p><b>Tuberculosis</b> (<i>Mycobacterium tuberculosis</i> complex) ① (pulmonary or extrapulmonary sites of disease, including clinically diagnosed disease). Latent tuberculosis infection is not reportable.</p> <p><b>Typhus</b> (<i>Rickettsia</i> spp.)</p> <p><b>Unexplained deaths and unexplained critical illness</b> (possibly due to infectious cause) ①</p> <p><b>Varicella</b> (<i>Varicellovirus</i>) ①</p> <p><b>Vibrio</b> spp. ①</p> <p><b>Yellow fever</b></p> <p><b>Yersinia</b> (enteric <i>Yersinia</i> spp. regardless of specimen source) ①</p> <p><b>Zika virus disease</b> ① (all cases &lt;18 years old, unusual case incidence/complications regardless of age)</p>
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SENTINEL SURVEILLANCE

Diseases reportable through sentinel surveillance and reportable based on the residence of the patient or the specific health care facility; sentinel surveillance is not statewide reporting.

**Staphylococcus aureus** ①, ②

**Candidemia** (*Candida* spp.) (blood isolates only) ①, ②

**Carbapenem-resistant Acinetobacter** spp. (CRA), and **Pseudomonas aeruginosa** (CR-PA) ①

**Clostridium difficile** ①

**Respiratory syncytial virus (RSV)**

**Non-tuberculous Mycobacteria (NTM)**, pulmonary and extrapulmonary

FOOTNOTES

① Submission of clinical materials required. Submit isolates or, if an isolate is not available, submit material containing the infectious agent in the following order of preference: a patient specimen, nucleic acid, or other laboratory material. Call the MN Dept. Health Laboratory at 651-201-4953 for instructions.

② Invasive disease only isolated from a normally sterile site, e.g.: blood, CSF, joint fluid, etc.

③ In the event of SARS or another severe respiratory outbreak, also report cases of health care workers hospitalized for pneumonia or acute respiratory distress syndrome.

④ Also report a pregnancy in a person with Zika, or a person chronically affected with hepatitis B, HCV, or syphilis.

TO REPORT

- For immediate reporting call: 651-201-5414 or 1-877-676-5414.
- Report forms can be downloaded at [www.health.state.mn.us/diseases](http://www.health.state.mn.us/diseases)

The gauge size of a needle indicates what the diameter of the lumen (opening) is. The higher the gauge, the smaller the diameter. For example, a 30 gauge needle has a narrower lumen than a 25 gauge needle. Different companies use different measurements for gauges, so it is important to specify inner diameter. Read on for the Allevi Gauge Size .



## Kyiv - Wikipedia



The Ukrainian capital Kyiv was targeted with missile fire early Friday local time, according to an adviser to the country's government.

- <https://groups.google.com/g/39hunk82/c/c4J1hslx7-c>
- <https://publiclab.org/notes/print/43946>
- <https://groups.google.com/g/38musclebrain50/c/FXvXYEnMSrk>