Lions Clubs International

Community Eye Screening For Children

LIONS KIDSIGHT USA TRAINING MANUAL

www.KidSightUSA.org

Our mission is to ensure all kids
from 6 months to 6 years of age
receive eye screening and follow-up care
to detect risk factors for amblyopia.
Because every child deserves to see
the world clearly.

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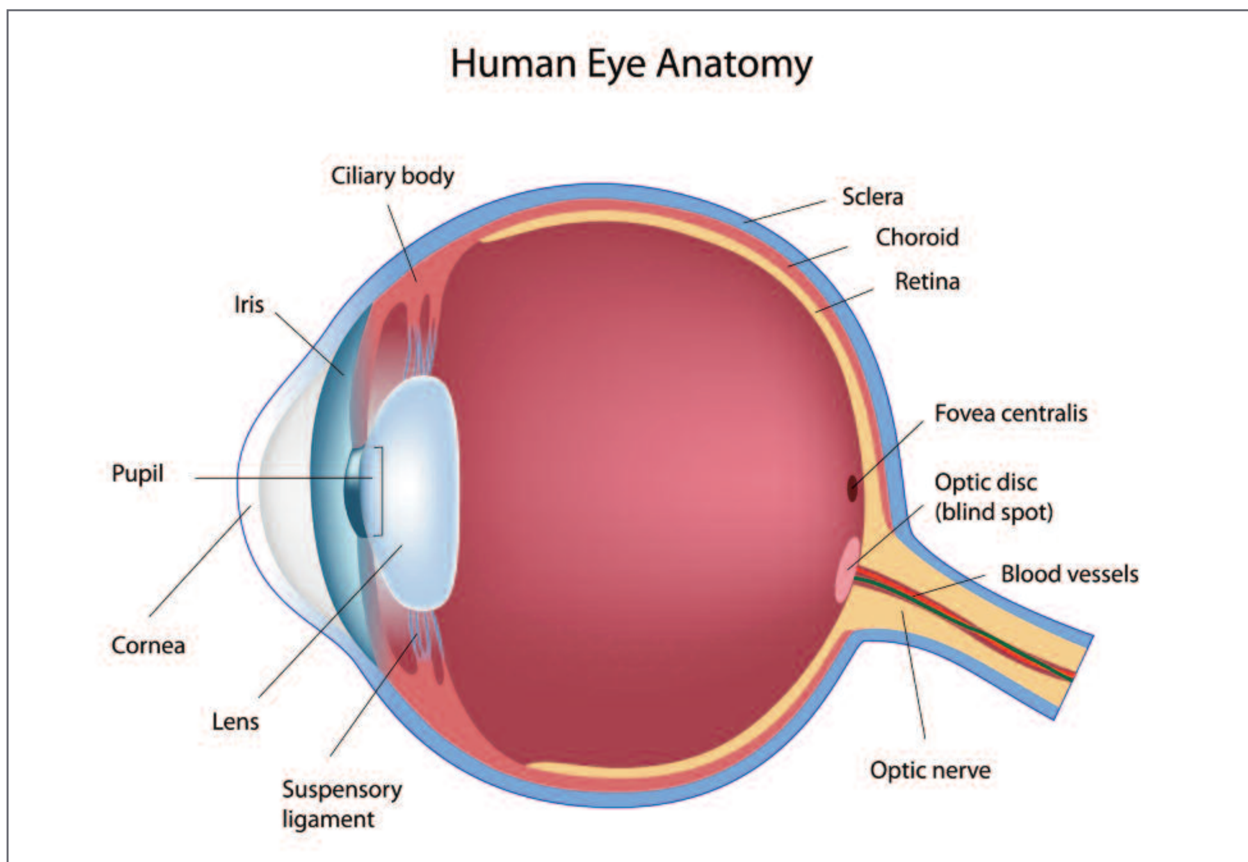
Why is youth vision screening important?

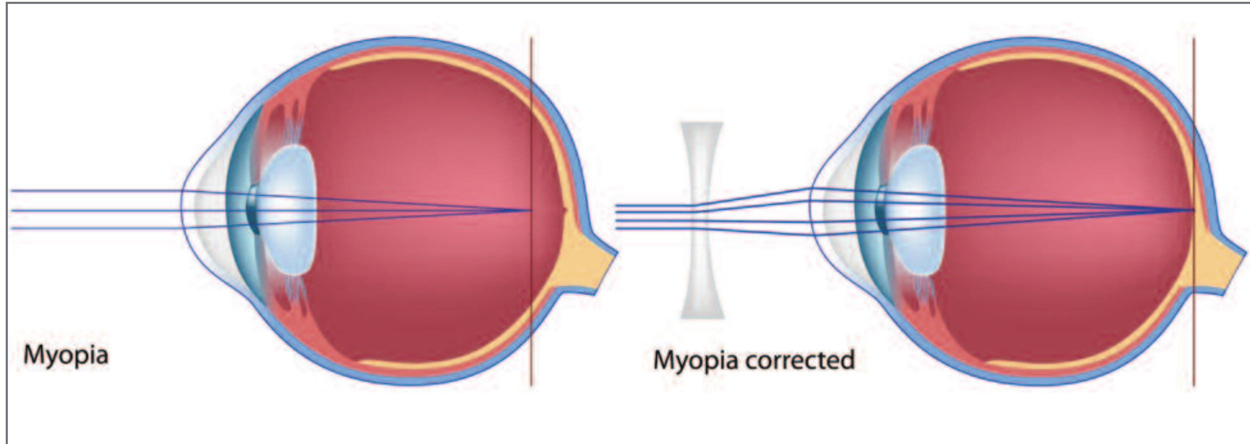
Approximately 5% of all children will develop amblyopia, a treatable disorder that can result in permanently reduced vision when not addressed by an early age. The screening devices detect risk factors for amblyopia, such as strabismus (eyes that cross or wander out), refractive errors and unequal vision between the eyes, and even more potentially serious issues like cataracts and eye cancer. Unless the risk factors for amblyopia are detected and corrected early, they risk becoming permanent by age 7. In addition to amblyopia, detecting other potential vision problems in the early school years may contribute to better academic performance. According to educational experts, 80% of learning is visual. Yet most young children don't get their vision screened until they have problems learning or paying attention in school.

Definitions of medical terms associated with vision screening

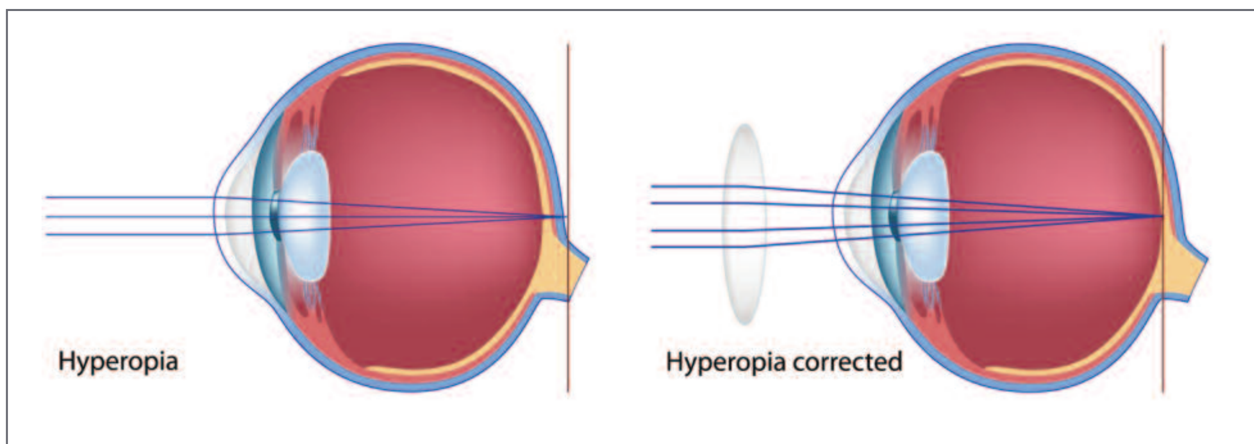
Diagram of Human Eye



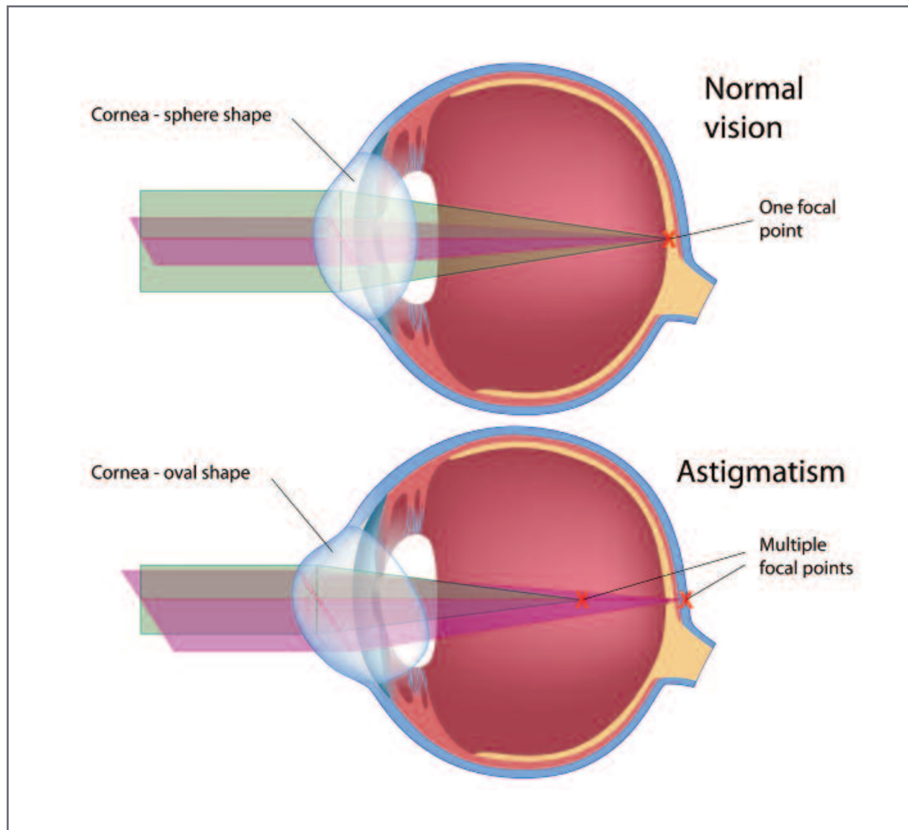
Myopia (Near Sighted): The eye is too powerful for its length. Light is focused to a point in front of the retina. This creates the symptom of seeing poorly at distance and more clearly when near. The higher the myopia the closer things need to be to appear clear.

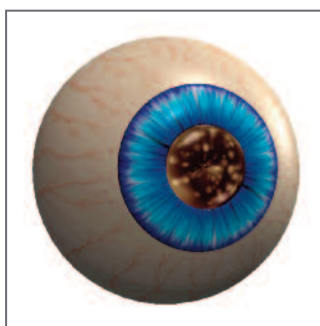


Hyperopia (Far Sighted): The eye is not powerful enough for its length. Light is focused to a point behind the retina. The child may be able to refocus the eye to compensate for the hyperopia, but this causes the eyes to work to see at any distance (but may still have good 20/20 vision). If hyperopia is high, it may cause the eyes to cross. This is one of the major risk factors for amblyopia. Older children with significant amounts of hyperopia may experience tired eyes and difficulty maintaining focus and concentration when doing detailed visual tasks.



Astigmatism: The eye has two focus points rather than the usual one. Points may be either myopic, hyperopic or any combination of the two. The amount of astigmatism is defined by the spread between the focus points. Since there isn't a single point of light to be resolved on the retina, vision will not be perfectly clear at any distance. The child may attempt to achieve the best possible vision by refocusing the eye to compensate for the astigmatism. Just like in hyperopia, children will experience tired eyes and difficulty maintaining focus and concentration when doing detailed tasks.



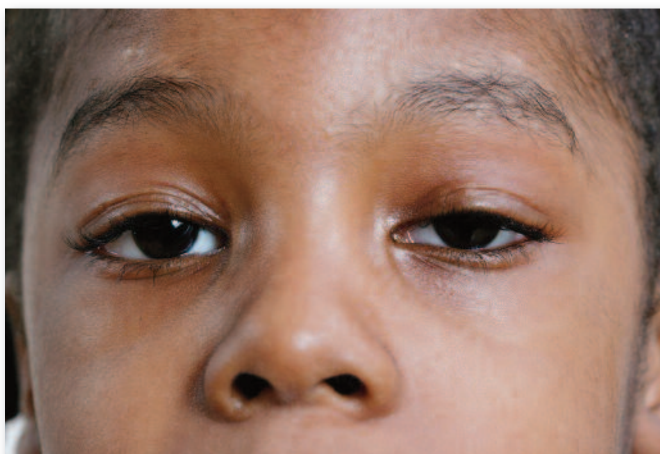


Cataract: When the lens in the eye is cloudy, reducing the light entering the eye and distorting the image.

Anisometropia: A significant difference between the refractive powers (eyeglass prescription) of the eyes. The brain will choose to see out of the eye with the least refractive error and ignore the other eye. If not treated early, the eye that is ignored will experience poor vision throughout life.

Strabismus: Misaligned eyes. One eye turns in, out, up or down. The other eye points properly.

Anisocoria: Unequal pupil size more than 0.4 mm. About 20% of the normal population has this, but it could indicate serious neurologic problems, especially with 1 mm or more of difference.



Ptosis: Lid droop. Usually one lid droops significantly lower than the other. May indicate serious neurologic problems. May have significant systemic implications.

Know and understand Amblyopia risk factors

The National Eye Institute defines amblyopia as follows: "Amblyopia is the medical term used when the vision of one eye is reduced because it fails to work properly with the brain. The eye itself looks normal, but for various reasons the brain favors the other eye. This condition is also sometimes called lazy eye."

2-3% of the population has risk factors for amblyopia. The lay person term for amblyopia is "lazy eye." It is caused by any condition which causes one eye to not see as well as the other. The brain learns to see out of the better eye and ignores the weaker eye. This can be caused by one eye having a much higher glasses prescription than the other (anisometropia), strabismus or, in rare cases, juvenile cataract.

If the risk factors for the development of amblyopia are not detected and treated by age six, the chances of successful treatment greatly diminish. Treatment may include, but is not limited to, correcting the refractive error with glasses, patching, blurring one eye with an eye drop, vision exercises or surgery. Beyond the age of seven, treatment success is limited but is usually attempted.

HIPAA basics and other privacy concerns

The Health Insurance Portability and Accountability Act (HIPAA) generally refers to the federal law governing patient privacy. Lions, in doing vision screening, are not actually conducting medical exams resulting in a diagnosis; we are screening, which results in a referral when necessary. Therefore our HIPAA exposure is somewhat limited. However, we still need to be totally aware of our responsibility to protect the privacy of screened children.

- We should NOT include any children's or families' names or addresses in any discussion of the screening results.
- Parents/guardians should sign permission forms allowing their child to be screened.
- The permission form should have an "opt out" check box next to a statement allowing authorized screening personnel to contact the parent/guardian to determine if the child needing a referral actually received professional care. If the "opt out" box is checked, no contact can be made.
- All records containing names should be maintained in a strictly confidential manner.
- Any transmission of screening data should be done without inclusion of names and addresses.

Parental permission forms

As indicated above, a parent/guardian should sign a consent form allowing their child to be screened. This form should clearly indicate the following:

- A statement that the procedure is non-invasive (there's no contact with the child).
- A statement that the screening is not a substitute for a comprehensive eye examination by an eye doctor.
- A statement that mentions that the screening may yield a certain number of false positive and false negative results which may result in a referral when the child is "fine" or the procedure may not detect a problem a child actually has.
- A statement that mentions that a parent/guardian who feels their child has a vision problem should have the child examined by an eye doctor regardless of the results of the screening.
- Encourage the child-care facility/program to distribute the forms six weeks or more in advance of your first screening. In future years, consider asking the facility to include the form as a part of the facility's registration package.
- An "opt out" check box next to a statement allowing authorized screening personnel to contact the parent/guardian to determine if the child needing a referral actually received professional care. If the "opt out" box is checked, no contact can be made.

If parent/guardian permission is not obtained, the child should not be screened.

How to interact with children safely and effectively

Here are some tips to keep in mind when screening:

- Make it "FUN."
- **Never** be alone in a room or confined space with a child.
- Have a teacher, school nurse, or teacher's aide help line the children up and keep them occupied until it's their turn.
- Try not to have the waiting children interact with the child being tested.
- Don't have too many children lined up at one time.
- Smile at the children all the time.
- Do not show frustration if a child is not cooperating. Retest on another day if necessary.
- Always tell the children they "did a great job."
- Do not touch children. If they need direction in standing/sitting in the proper location or prompts such as a touch on the shoulder, have the school personnel do this. Do not do this yourself.
- Give clear instructions as to where the child should look. Again, make it a game. When the screening results are obtained, tell the child, "You win!"
- If you give out stickers to the children to wear after the screening, you should hand it to them so the child can place it on himself or herself. You may hand the sticker to the school personnel for placement, but do not place it on the child yourself.

How to reach out to schools and agencies to offer screening services

Lions should reach out to community agencies that work with children to help organize a vision screening:

- Local Head Start programs
- Kindergartens
- Nursery schools
- Religious schools
- Day care centers
- Other organized children's programs with a chief administrator

Speak with the administrator about the needs and benefits of doing children's vision screenings – especially for ages 6 months to 6 years. Offer your club's services in conducting these screenings, explaining that the methods used are scientifically validated by professional third parties. Once the agency agrees, schedule a time to do the screening. Invite the chief administrator to be present at the screening.

If an agency needs more information, refer personnel to the National Institutes of Health, American Academy of Optometry, American Academy of Ophthalmology and American Academy of Pediatrics, which have all published peer reviewed papers in support of children's vision screening. Links to these papers are on the Lions KidSight USA website.

Understanding of the proper environment for accurate screening

Here are some tips that can help you conduct a successful screening:

- The vision screening should be done in a room or location with controllable light (so the brightness can be adjusted) and without direct light shining into the screening device.
- DO NOT screen children in a small dark room.
- It is always best to have one of the agency's staff present during the entire screening process.
- One Lion should be assigned to operate the screener and, if necessary, the printer (for screening results). At the minimum, there should be one Lion assigned to organize the waiting line and collect the demographic information on the child screened. Another Lion should help children get into the proper place in front of the camera when it's their turn to be screened. Agency staff may be a great help in this process.

Adjust your screening instrument to the correct sensitivity/specificity setting

All screening devices have the ability to set the specificity/sensitivity criteria used for recommending referral. There are many situations in which different criteria are appropriate. However, for the purpose of Lions KidSight USA, we want to achieve a good balance of accurate referrals vs. over referrals. This is best achieved using a **specificity of 95%**. Please adjust your instruments according to the manufacturers' instructions to this setting. You may have to confirm this setting at the beginning of each screening session.

Here are some notes on sensitivity and specificity:

- If the specificity is set too high you will have a lower sensitivity, resulting in far too many under referrals, so many children with risk factors will not be detected.
- If the specificity is set too low you will have a high sensitivity, resulting in far too many over referrals and the families and agencies you are working with will be unhappy.
- The recommended specificity of 95% is the setting recommended by the clinical/scientific organizations which have studied children's vision screening.
- The national averages for screening data indicate that 95% of referrals will have been in need of professional services – so they were "good" referrals.
- The national averages also show that of all those screened, there will be 20%-25% who should have been referred but were still "passed" by the instrument.
- If you are screening a special population – special needs children, certain demographic populations, etc. – it is possible for the referral rates to be dramatically different. Referral rates up to 15%-20% may be explained due to your working with such a specialized population of children.

Be completely knowledgeable about the operation of your screening device

Each screening device has its own methods of operation. Each of the modern machines will produce excellent, scientifically validated results. You should completely familiarize yourself with how your machine should be used so you will always perform accurate screenings. Our corporate partners – Plusoptix and Welch Allyn Spot – have produced excellent training material which can be found on the Lions KidSight USA website. Please study this information and practice with your camera so you will be totally proficient on "screening day."

Making adjustments to the screening process when the results are not what you expect

Here are some tips for adjusting the screening process to improve your results:

- Be sure the child's pupils are at least 4mm but not more than 8mm. If necessary, adjust the light brighter to achieve smaller pupils or darker to achieve larger pupils.
- Consider using a black umbrella or even sunglasses on those children with small pupils when you cannot dim the lights.
- Be sure there are no direct lights shining on the front of the camera.
- Be sure the camera is level and squarely pointed at the child's eyes at exactly the same height of the eyes. If the camera is tilted up or down, or twisted right to left, it will be difficult to obtain a good reading.
- Be sure neither you nor the child moves during the camera's reading process. Both you and the child need to be still for just 1 second, but both of you must be still.
- Be sure the front of the camera is 1 meter (3.3 feet) from the child's eyes when conducting the screening. If the distance changes due to movement, slowly rock forward or backward to achieve the correct distance. It sometimes helps to place paper "foot prints" on the floor where you want the child to stand. Or consider having the child sit in a chair. Remember, you must hold the camera at the height of the child's eyes – do not point it down to them.
- For screening devices that show flashing lights, you may be able to coax a child to 'count the lights' to help maintain their attention on the device.

Properly answer questions from parents, teachers, etc. about the screening results without diagnosing

Here are some tips for addressing technical questions during a screening:

- When you are asked why a child needs to be referred, you cannot diagnose since you are not a doctor with a license to practice. The only thing you may say is that based on the national standards built into the machine, the child needs to see an eye doctor for a complete evaluation. Do not enter into a debate on the merits of the screening.
- You may describe the national averages for specificity for which the camera is set.
- Without indicating why a particular child failed the screening, you may discuss the various conditions the camera detects and why they are important – again, DO NOT indicate why a child needs referral. This is diagnosing.

Have in place a system to efficiently accomplish follow up

It is extremely important to follow up with the parent/guardian to ensure that children who are referred get the professional care they need. This is generally accomplished by a phone call to the family. It is also generally accepted in the public health community that no more than 3 phone calls to a parent/guardian are made. The administrative decision becomes who will be responsible to make these calls.

The simplest model is to have the administrator/school nurse of the agency be responsible for ensuring proper follow up. The agency, after all, is responsible for the well-being of its children, so asking them to do the phone calls is not unreasonable. The Lions club can then call this administrator 4-8 weeks later to confirm the number of children who received professional care after the screening.

Another model would be for a Lion or volunteer from the club to agree to make the calls. This puts a small burden on the club. However, since a "normal" referral rate is less than 10% of those screened, it represents only 10 contacts needed out of each 100 screenings completed. The club or zone could have a volunteer "Follow up Committee" that is assigned with following up and keeping the records of the phone calls.

Another model is to have a paid staff in a central location be responsible for making the follow up calls throughout the district or multiple district. The advantage of having a paid staff person is increased control of the follow-up process. The disadvantage is the expense needed to maintain an office and pay staff.

You should set up a network of doctors to examine those who are referred

The children who need referrals are going to need to be examined by an eye doctor. It is considered best practice to visit the doctors' offices (appointments are best) to discuss the screening process and the work you are doing. Explain the results and show them the screening report forms the instruments generate. Assure the doctors that the patients will be free to choose any doctor they wish to go to. It is also good to invite doctors to attend a screening, and you should be available for any questions they may have. The examining doctors should commit to following the national standards for pediatric eye exams, which include using Cycloplegic Drops to dilate the pupils to allow true comprehensive examination.

If your club is prepared to assist with financing comprehensive examinations and/or glasses, arrangements should be made with the doctors in your area and the agency for which you are screening should be informed of this possibility. It is strongly suggested that a one-to-one relationship with a particular provider be avoided. A list of local providers is preferable. If a club is planning to offer financial assistance, predetermined criteria for this assistance should be clearly written and followed.

Maintain accurate data on the screenings you do

The club should record the global data. This should include the number screened and number referred, age of the children, the number of those who were referred who actually received professional care, and the diagnosis if at all possible. Remember, names should not be attached to this data. It is just the raw data that will be important. Eventually, Lions KidSight USA will have a national database in which we will collect all the screening results from around the nation.

Public Relations

Consider developing a community press release about your Lions KidSight USA screening projects to share your screening project with the community. You can include the number of children screened and referral rates, but you cannot mention children's names or any personal information collected at the screening due to privacy issues.

Consider talking to the school about the possibility of inviting a parent whose child was referred for professional care to assist the school in developing a press release discussing improvements they observed in their child as a result of the treatment. While this news story might take place several months after the screening, it will encourage more parents to allow their children to be screened in the coming year.

Thank you for using this manual to help conduct your vision screenings. Lions KidSight USA is proud that you have joined us in helping our children have happier, healthier futures.

www.KidSightUSA.org

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