



2020 – The Steps Ahead

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Previous page image: traditional pilgrimage steps at the Nanyan Temple in the Wudang Mountains, Hubei Province, People's Republic of China. About 250 miles northwest from the city of Wuhan. The photo includes students from the Wudang Daoyuan Internal Kungfu Academy from 2019 before the COVID-19 pandemic.

This document is evolving – it contains some answers to question posed in the earlier document.

Summary of Suggested Changes

/1/ Daily tests for the presence of the virus and for antibodies if the testing can be done quickly, cheaply and non-invasively. It remains unclear if there will be such technology available, as well as if such testing would be able to determine which strain or strains are present.

/2/ There is currently no consensus on masks or gloves for students. A complex issue. Almost certainly gloves with a mask or with a face shield for teachers and aides. Probably a plastic smock and a cap or equivalent hair covering as well. It is anticipated a teacher will have to have a microphone mounted somewhere inside the mask or face shield. No one likes face shields and it remains to be seen if students will tolerate gloves or masks.

/3/ Although the logistics would be complicated, the use of small buses to transport students was favored over vans due to distancing, and definitely over a collection of other modes. One suggestion with considerable popularity was to wear gloves and a mask during transportation but not necessarily during class.

/4/ There is no consensus on how to clean wheelchairs prior to starting class and after ending class.

/5/ Increase the size of the changing rooms to safely accommodate 8 male students at a time. Change (or add) shirts, pants and shoes. Require all students to wear socks to school. Launder the clothes and wipe the bottoms of the school shoes. Have students put street shoes in an individual bag or box at the entrance and then use sanitizer on their hands.

/6/ No snacks, drinks or weapons from home.

/7/ For all weapons and tools: after use a light alcohol (or other neutral-smelling disinfectant) wipe and then dry with a single-use paper towel before storing in a bag which would be placed in the student's locker. Add student names on tags and color-code the bags for the various weapons and tools.

/8/ There have been more opinions than respondents as to whether students testing positive for viruses should participate in class. Generally, the answer has been "no" if there are serious symptoms like persistent coughing, fever, dizziness, breathing problems ... but yes otherwise (no symptoms).

/A/ The Educational Environment

Some months ago we were preparing to teach the venerable Chinese martial art of Tai Chi Chuan to people with special needs, notably in the autism, cerebral palsy, arthrogryposis and Down syndrome spectra. A feature of interest was dressing students in smart garments to facilitate sending detailed daily digital scores to provide parents and physicians with a statistical anchorpoint to inform decisions about diet, medications, sleep and logistics.

Currently, we expect students will be in one of four statuses

/a/ negative for the virus; negative for the antibodies. Allegedly, this means this individual has not ever had the virus.

/b/ negative for the virus; positive for the antibodies. This individual had the disease but has recovered now. Unless documented at the time, it would be difficult to determine afterwards if the individual had displayed symptoms. This combination would be typical (eventually) of 90% of people who had the disease. The underlying assertion here is that such individuals are no longer contagious.

/c/ positive for the virus; negative for the antibodies - an active case. This individual needs to be followed closely to determine if special care or hospitalization is in order.

/d/ positive for the virus; positive for the antibodies - this is ambiguous: the individual might be on the verge of having virus density decline (= recovering) or be reinfecting. This individual also needs to be followed closely.

There are considerable concerns

/1/ what percentage of students with the virus will produce antibodies

/2/ will antibodies provide protection against other strains

/3/ how long will antibodies last

Note that for logistical reasons we had always intended to teach two rows of eight students each with at least six feet between students. Practically speaking, there will be no way to avoid violations of social distancing both of student-student and student-teacher.

/B/ Transportation

In certain respects, transporting students to and from class in a van has considerable statistical appeal as the environment can be more or less standardized and the travel time could be used for testing. The logistics of arranging pickups and drop-offs, as well as dealing with missed connections and early departures from class, are daunting. While collecting students for the first class and distributing students after the last class could be done with a single group of vans, multiple classes per day would either require a substantial time gap between classes or double the number of vans. The majority of respondents favored small school buses in place of vans so as to maintain distancing.

We will assume that students will arrive by a variety of modes: walking, bicycling, public transportation (typically, a bus, but possibly BART), a private automobile or some sort of shared vehicle (a van pool, Lyft, Uber and so on).

/C/ Testing before Class

We will assume that there is a technological advancement and that the presences of the virus and of the antibodies can be tested for non-invasively, inexpensively and in real-time.



/unresolved/ Should students in categories /c/ and /d/ be excused from class and quarantined at home? Even if they are asymptomatic?

The consensus on other questions was consult the student's physician and parents, but if there are no symptoms have the student continue in class. It was agreed sending a student home is unlikely to be trivial and would likely be traumatic.

/D/ Our Typical Daily Class

There is a rather lengthy detailed description of the details of a daily two hour class. They can be summarized as

- /1/ formal bowing and saluting to begin and end the class
- /2/ traditional Chen family warm-up routines
- /3/ six unarmed Tai Chi Chuan sets
- /4/ five weapons sets with batons (26" long 1" diameter pieces of wood), swords and sabers
- /5/ five weapons sets with staff (eyebrow height), spear, halberd, fork and three meter pole
- /6/ eight Qigong sets – exercises primarily intended for health as opposed to combat
- /7/ seven sets of exercises with various Tai Chi tools – the ruler, bang, ball, bar, grip rings, Baoding balls, and Wing Chun rings.
- /8/ traditional Chen family silk reeling (cool-down) routines
- /9/ beverage and snack consumption
- /10/ Standing and sitting meditation
- /11/ we also record undesirable behaviors and medical concerns as required in an individual's education or behavior plan (IEP or IBP). For those who have not had the pleasure, the individual plans are written contracts between a government social services agency, a family and third parties such as schools and service vendors.
- /12/ emails to parents or guardians with scores

Previously, we were only grading the individual movements of the sixteen Tai Chi Chuan sets (items 3, 4 and 5 above). We are considering grading the Qigong sets and the Tai Chi tools as well as possible the warm-ups and cool-downs.

/E/ Anticipated Curriculum Changes

- /1/ We expect to add a separate class for people in wheelchairs, although we do not currently have a protocol defined to clean the wheelchairs before and after class. A wheelchair curriculum is under development.
- /2/ We will temporarily drop chidu (long bang) exercises as they involve two persons
- /3/ We will drop foam-covered batons and go straight to wooden batons as the foam is too difficult to treat with a disinfectant.

/F/ Procedural Changes

/1/ students arrive; they are routed to four physically separated testing stations where we test for COVID-19 and for antibodies. We will endeavor to keep everyone six feet apart.

/2/ If masks are required check the mask. Check for socks. Remove and bag or box street shoes. Rinse hands with sanitizer

/3/ Released in eights to the corners of the changing room to switch shoes, pants and shirts.

/4/ Note that we will temporarily suspend students checking in using fingertip biometric verification. We have not found facial recognition to work well with masks either.

/5/ optional snack (Eight Treasures rice with custom additions) and optional beverages.

/6/ In parallel, we account for any missing students – usually by emails and phone calls to parents or guardians

Note that for most classes the students wear traditional long black pants and a long-sleeved shirt in summer or a hooded sweatshirt (leftmost photo below) in winter. We have temporarily abandoned shorts and t-shirts as had often been worn in summer. When filming a video to be sent to China for expert review students usually wear semi-formal black cotton uniforms (below center). For formal occasions such as a public exhibition or visits by a master full formal silks are worn (below right). For the alarmed, none of the three weapons shown below are canonical weapons.



/7/ After practicing a weapon will have its handle or grip wiped with alcohol or a non-

aromatic disinfectant and will be stored in a bag. For the long weapons such as the staff and spear that means the entire handle has to be wiped. We would prefer an aide (as opposed to a student) administer a quick-drying disinfectant such as alcohol, dry and then bag the weapons.

/9/ Among the Tai Chi tools we teach are

/A/ the Tai Chi Ball – a solid wood ball is shown on the left (we do not use it in class – too heavy and expensive) and a hollow rubber ball shown on the right.



/B/ the Tai Chi ruler (shown below). It, the Tai Chi Bar and the Tai Chi Bang are typically finely polished wood. They would be treated in a manner similar to that described for the long weapons, and we would apply a thin coat of Danish oil or tung oil monthly. It is characteristic of ruler exercises that there is extensive massage-like contact between the ruler



and the palms – this is difficult to achieve with gloves on.

/C/ Baoding ball exercises are used to strengthen the fingers and grip, increase flexibility and decrease arthritic pain. We will try to standardize on metals balls (below right) as opposed to wooden (below left), glass, plastic or synthetic minerals.



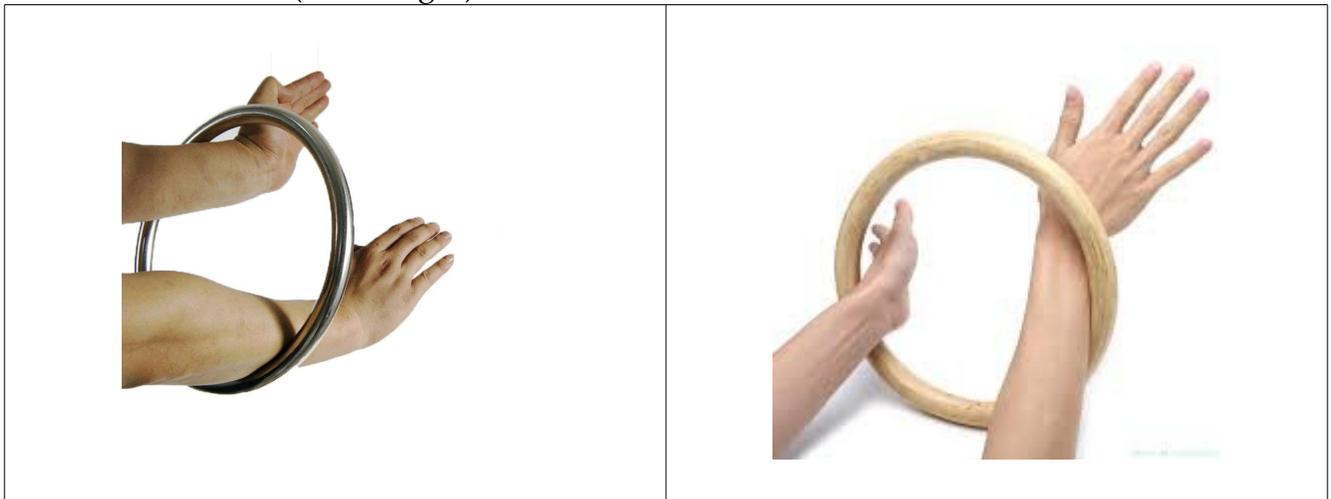
Traditionally, Baoding balls were kept in a small, satin-lined box. It is likely we will change over to a small bag with a liner similar to that used for other tools. We find it difficult to maintain precise control of the balls when wearing gloves.

/D/ Grip ring exercises do not require the same dexterity as Baoding balls, Tai Chi ruler and other tools, so it is technically possible to do grip ring exercises with gloves on. As mentioned earlier, whether students would be enthusiastic or even willing to wear gloves is another matter.



These are also particularly helpful for students with an especially painful arthritis-like condition associated with most types of arthrogyrosis and many types of cerebral palsy. Individual sets would be stored at school, and a student could certainly purchase a second set for practice at home.

/E/ Wing Chun rings – we will attempt to standardize on metal rings (below left) as opposed to rattan or bamboo (below right).



/G/ Snacks and Beverages

The general idea was to serve a small bowl of Eight Treasures Porridge before class and a small bowl during the break at 60 minutes. Strategically, these would reduce any food anxieties and would start everyone off in a more or less equal condition. We would not object to a third small bowl after class. Eight Treasures Porridge can use different rices – white and brown are most common, but black and red rices have been used. There are many published recipes for Eight Treasures Porridge: a casual survey discloses over thirty ingredients. Examples of two combinations are shown below.



We would propose individual recipes in consultation with parents and physicians.

Students would always have access to cool water.

Students could select an herbal tea. We would be willing to serve individual mixtures: for example, 50% passionflower; 35% lemon balm and 15% chamomile.

/H/ The Novel Coronavirus Problem

As of June 12, there are currently more than 7,500,000 confirmed cases of the novel coronavirus world-wide with more than 2,000,000 confirmed cases in the United States and almost 150,000 confirmed cases in California. Unfortunately, there have already been over 400,000 deaths world-wide, almost 120,000 deaths in the United States and almost 5,000 deaths in California. As should be expected, Los Angeles dominates the California statistics with over 70,000 confirmed cases and nearly 3,000 deaths. However, neither the United States nor California has yet to test even three percent (3%) of their respective populations, so confirmed cases and confirmed deaths are likely to grossly under-represent the impact of the pandemic.

Recent communications with the World Health Organization and with the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University indicate that no one is currently tracking the impact of the COVID-19 pandemic on people with special needs. Nor is there any publicly available work on the impact of COVID-19 on other complications such as diabetes and epilepsy.

We will assume

/1/ There will NOT be a vaccine or a cure available for many months, if ever.

/2/ The bulk of the population will eventually become infected at least once.

/3/ There is some potential for affordable, accurate and inexpensive testing

/4/ There are well over 70 known strains of the novel coronavirus with the dominant strain currently involving D614G mutations. It is currently unclear how frequently individuals form antibodies; how long those antibodies are effective; whether one can be infected and re-infected by the same strain; or whether infection by one strain has any influence on subsequent infection by another strain. Of interest is whether anyone has an intrinsic (genetic) resistance. No one is testing for this - it takes a whole exome DNA analysis using PCR-RT, which is the same technology used to test for the virus.

/5/ For Silver Wolf Wushu the tactical objective would be similar air and water across schools so both can be ignored as significant factors when comparing an individual student day over day as well as when comparing students in different schools.

/I/ Sparring and Concluding Remarks

Traditionally, Chen Family style has included training in tuishou, often known as push hands. It involves light sparring between two students with the possibility of changing partners, but there is very little training in how to fall. Our decision not to teach push hands has not changed. However, in the interests of completeness, several respondents with training or specialization in aikido, judo, jujitsu and similar martial arts have suggested

1. adding family members to the class
2. using dummies, sacks of potatoes and well-sealed bags of rocks
3. having the students throw or do joint locks on the teacher and aides

So far, none of these have worked.

No one likes face shields due to the heat they trap and a tendency to fog up. They also introduce considerable complexity in sparring or practicing when someone wearing a face shield is thrown. Even if students infamous for tactile hypersensitivity would tolerate gloves there were a number of scathing comments about how latex gloves do not last very long (minutes as opposed to hours) when used to grasp canvas gis. Likewise, slapping the mats during warm-ups or when breaking a fall tends to tear the thin gloves. Experiments with thick gloves report excessive heating of the hands and difficulty in securing or maintaining a grip. There is the consideration that if weapons, tools and eating utensils are being wiped it is not so clear what benefit gloves provide to students. Aides and teachers would likely have to wear gloves, but gloves would be optional for students. Subject to student reactions, we will recommend sports sleeves. So far, no comments from anyone teaching or studying mixed martial arts where specialized gloves might be worn. The consensus (a small sample, alas) is that fighters in competition will need to have foot coverings, long pants and long-sleeved shirts for some time.

Masks have been criticized for chafing, for not being really effective at keeping viruses out, for overriding sensations of taste and smell, and for restricting heat release, oxygen inhalation and carbon dioxide exhalation. We are leaning toward masks when traveling but not in class in view of the possibility of being already infected on the bus or in the van during travel to class. As for keeping asymptomatic students in class if it could be confirmed that they have one of the weaker strains (and almost everyone is going to get infected eventually) it might well be desirable to have students encounter a weaker strain if antibodies will be formed and will remain effective against most, if not all, strains.