

NEWSLETTER

WHAT'S IN THIS ISSUE

<u>From the President</u>	1
<u>Chair's Corner</u>	2
<u>COVID-19</u>	2
<u>武汉的至暗时刻，一位肿瘤放疗科医生的经历</u>	3
<u>CROG 致华人放疗同仁的公开信</u>	6
<u>COVID-19 Personal Protective Equipment</u>	7
<u>Poetry “胜出” 平台真不易</u>	12
<u>SANTRO Organization</u>	13

From the President

Dear Members of SANTRO,
Like all of you, I have been following news about the COVID-19 pandemic worldwide (more than 150 countries are now affected). Many of our relatives, friends, and patients have been affected, and some of them have unfortunately succumbed to this disease. I pray for them and their family members! During this difficult time, many of us have kept a clear head, calmly faced the rare suffering of the century, helped each other and encouraged each other.

Members of SANTRO are deeply rooted in China and have poured all of our efforts to help the people of China fight this viral enemy since the beginning of the COVID-19 pandemic. Now friends and relatives in China have sent us love and personal protective equipment (PPE). Recently, Dr. Luhua Wang from CSTRO and the leadership from many other organizations have taken actions to provide PPE to members of SANTRO in North America. Working with these organizations, SANTRO will certainly make all efforts to coordinate their support for our members.

I believe in the goodness of human nature. I believe the world will eventually overcome this disease. In the face of this unprecedented disaster, I believe each SANTRO member can stand the test, showing your own beauty, wisdom and character, and greeting the sunny tomorrow. I sincerely wish you and your family good health and safety amidst this pandemic.

Finally, I would like to use this opportunity to thank our previous leadership for their great effort to build SANTRO as a platform for us to bridge the Radiation Oncology Community

in China. The new executive board will carry this torch and continue its mission to serve our members.

Dian Wang, M.D., Ph.D.

President of SANTRO

Chair's Corner

In times of this COVID-19 crisis we are experiencing now, SANTRO members and friends in the US and China are united in supporting each other to continue providing the highest quality of care to our patients. With sustenance from other sister organizations, e.g., ASTRO, AAPM, NACMPA, CSTRO, and CRTOG, SANTRO wishes to help our members and friends to do whatever we can to minimize the risk to our patients, our colleagues and ourselves. I would like to borrow an iconic quote from Martin Luther King Jr.: “The ultimate measure of a man is not where he stands in moments of comfort and convenience, but where he stands in times of challenge and controversy.” We wish you and your loved ones safety and health. Please let us know if we can provide you with any assistance.

Regards,

Allen Li, PhD

Chair of SANTRO Board of Directors

COVID-19

By Chi Lin, MD, PhD

A novel coronavirus is a new coronavirus that has not been previously identified. In particular, a novel virus is causing the coronavirus disease 2019 (COVID-19).

On February 11, 2020 the World Health Organization announced an official name for this disease. The name of this disease, abbreviated as COVID-19, stands for coronavirus disease 2019, where 'CO' stands for 'corona,' 'VI' for 'virus,' and 'D' for disease. As we now know, COVID-19 is caused by a coronavirus called SARS-CoV-2, a strain of severe acute respiratory syndrome-related coronaviruses. It is believed to have zoonotic origins and has close genetic similarity to bat coronaviruses, suggesting that it may have emerged from a bat-borne virus. An intermediate animal reservoir such as a pangolin is also thought to be involved in its introduction to humans.

On March 11, the COVID-19 outbreak was characterized as a pandemic by the WHO. This is the first pandemic known to be caused by the emergence of a new coronavirus. The virus is thought to spread mainly between people who are in close contact with one another (within about 6 feet), and through respiratory droplets produced when an infected person coughs, sneezes or talks. COVID-19 may also be spread by people who are asymptomatic. Furthermore, A person can get COVID-19 by touching a surface or object that has the virus on it and then touching their own mouth, nose, or possibly their eyes.

The following is a link to a webpage that tracks the COVID-19 cases in real-time:

<https://www.worldometers.info/coronavirus/?from=single-message&isappinstalled=0>

武汉的至暗时刻，一位肿瘤放疗科医生的经历

By 湖北省肿瘤医院放疗中心 韩光

1月20日，钟南山院士的一句警示：“新冠肺炎肯定存在人传人”，武汉市春节前的节日欢乐气氛突然就凝固了，之后急剧紧张的情绪就围绕着每个武汉人的心中。突然一夜间所有的人都戴上了口罩，一片巨大的乌云笼罩在武汉的天空之上。1月23日，大年三十，本来是放疗中心年前最后一天放疗工作日，很多患者等待做完当日放疗后就回家过年，但就是当天上午武汉突然封城了。武汉历史上有过三次封城，第一次太平天国时期，第二次辛亥革命时期，而第三次来的是那么的突如其来。患者们慌着要求赶快放疗，以便能在完全封闭之前离开武汉，有的患者甚至中止了放疗要求立即出院离开武汉，病区里充满着紧张和恐惧的情绪。很快，前一批放疗结束尝试出城的患者又折了回来，沮丧的说不去了。我们作为患者的主管医生，除了安慰患者外，就只能立即和医院的管理层联系，确保春节留院患者的饮食及后勤支持。

封城之后，每天的朋友圈都充斥着各种关于新冠的新闻：例如大量人群感染、很多患者在未确诊之前就死亡、发热门诊聚集大量的患者、新冠导致的低氧血症患者一床难求、大量医护被感染、医生和护士几近崩溃嚎啕大哭。这些信息每天都刺激着我们的已经紧绷的神经，原定1月28日（初四）重启的放疗还继续吗？武汉市其它几家医疗机构还是按原计划于1月28日开始放疗，但我们放疗中心的几位负责人商议后最后认为，这次疫情不会很快结束，而且新冠感染性极强，并且传播方式还不是完全清楚，因此决定28日暂不放疗，立即重新设计和规划疫情期间的放疗流程：成立应急管理小组、规划感染控制区域、工作人员的统一培训和调配、制定放疗患者每日放疗的筛查标准，明确物理师和治疗师的分级防护、正确执行终末消毒和医疗废物的分类管理等方法。在完成所有部署和培训后，放疗中心于1月30日开始了农历新年后的第一次放疗。而与此同时，28日开始放疗的几家医疗机构分别因为出现了医护人员感染或发现患者感染而相继中止了放疗。

1月30日重新开始放疗时，我们也非常恐慌，自从有消息传出有些患者的潜伏期可以达到21天，我们把每个患者及其陪护仍至于自己的同事都当作了潜在的感染者进行相应的防护。放疗中心要求接受放疗的肿瘤患者必须戴口罩，这对非头部肿瘤患者几乎没什么影响，但对于头部或者头颈部患者，放疗期间如何遮挡其口鼻甚至其气管插管就成了一个问题。在没有拿出解决的办法之前，暂时不给头颈部肿瘤患者进行放疗，但经过中心几个骨干的商议，尝试着让患者戴上外科口罩后进行热塑膜的制作，同时进行摆位误差的对比，最终解决了这一问题，很快头颈部肿瘤的患者也接受了放疗。

由于我所在的医院是湖北省唯一的肿瘤专科医院，我们医院不接受新冠患者的救治。正当我认为，这次疫情我出不了什么力了，2月4日晚上突然医院通知征召医务自愿者到外院支援新冠患者治疗。我当时立即就报名参加了，妻子知道后责怪我没有和她商量，她怕我出事，而我报完名后即兴奋又紧张还有点后怕，同时也有点自责，毕竟自己出去了，家里就剩妻子和孩子了，她们在那个时候也需要人依靠，同时谁知道自己会不会感染上新冠，能不能活着回来。2月5日一早，接到医院通知参加体检，下午医院感染防护培训，晚上就开始入驻武昌方舱医院（国家方舱），午夜就开始收治第一批新冠肺炎患者。我们湖北省肿瘤医院方舱医疗队一行24人，从此就开始了武昌方舱医院的方舱生活。

第一次进舱还是非常紧张的，大家表面上都开着玩笑，边说笑着边穿戴PPE，但每个人都知道，一个篮球场大小的方舱里面住着250多名确诊患者，没有开通换气装置，里面的病毒浓度是有多高啊！为了能在舱内工作更长的时间，几乎所有进舱的医护人员都在自己那一班次前少吃甚至不吃喝。由于在高浓度病毒的环境里工作，即使戴了N95口罩等PPE，每次最长时间也不能超过6小时，否则PPE有可能失效，导致感染。最初由于舱内没有时间显示，我们工作多久全靠舱外工作人员通过步话机告知，我第一次进舱连续工作了6个小时，在舱外工作人员的敦促下慌忙出舱。有些医护人员可能是紧张，也可能是因为面罩缺氧或者系得太紧，导致在舱内或刚一出舱就出现呕吐，让我们很是紧张。方

舱里有 122 张病床是由我们医疗队负责的。我们只有 18 名医生，分 A\B 两组，每组负责管理 1 天患者，那么就是 9 名医生 24 小时分 4 班倒，1 名总值班，其余 8 名每班分 2 名医生。2 名医生在 6 个小时里管理 122 名患者，这个工作量太大了。如何有效的管理这些轻症/普通症患者，在治疗这些患者的同时能及时有效地发现向重症发展的患者，并及时将他们转向正规定点医院就是我们在方舱医院的主要工作。我们通过商议后，将 122 张床位划分为 A、B、C、D 和 E，五个区，每个区由患者选举出一个区长，对区长进行简单的培训，让区长平时对本区的患者进行管理，我们每组医生入舱后先找区长了解情况，再对重点患者进行巡查和诊疗。这套由患者来管理患者的方法很适合方舱医院这样的情况，因此很快获得了其它医疗队和其它方舱医院的认可和效仿。很快武昌方舱医院成为了国家方舱医院的示范医院，获得了国家政府的认可。

从 2 月 5 日收治第一例患者，到 3 月 10 日送走最后一例患者，我在武昌方舱医院一共工作了 34 天。3 月 11 日，方舱关舱后的第一天，也是我结束方舱医院工作开始接受隔离的第一天，我把方舱医院患者的临床数据进行了一些分析。我对比了 1 月中旬武汉市最早一批感染新冠肺炎的患者，方舱医院收治的患者均为轻症或普通型患者，相对于最早的那批患者（第一批），方舱医院的患者应该是感染的第 2-3 代患者。最早感染的患者临床症状都比较明显，根据 JAMA 和 NEMJ 两篇文章报道，男性患者居多 54%-58%，发热的比例可以达到 98%-87%，其次症状咳嗽 67%-59%，发展为重症的比例高达 26%-28%；而方舱医院数据显示当感染发展到 2-3 代时，患者性别比例发生改变，以女性居多了占 57.4%，临床症状明显减少，发热的比例仅达到 76%，其次症状咳嗽只有 18.9%，发展为重症的比例 6.6%，同时出现了无症状感染者，比例在 7.4%（还是女性居多 7 女 2 男）。这都提示了不同代的新冠肺炎导致患者的临床表现和转归都不一样，后期可能无症状携带者会越来越多的出现，同时 45 岁以上中年女性可能是无症状病毒携带的高危人群。

方舱医院给所有患者基本都是一样的治疗方案：奥司他韦/阿毗多尔口服 5-10 天，莲花清瘟胶囊口服 10-14，如果患者期间有发热感染症状加用莫西沙星口服 7-10 天，之后口服肺炎 1 号（临床症状较轻）、肺炎 2 号（临床症状较重）。我在临床工作中真的发现很多患者向我反应阿毗多尔似乎更有疗效，同时很多患者告诉我中药口服后特别是肺炎 2 号方胸痛咳嗽症状明显好转。同时我发现有 4 名核酸确诊患者（3 女 1 男），在接受本方案治疗后，3 次核酸检测转阴，同时血液抗体检测提示：IGG 和 IGM 为阴性。那么是不是这可以间接说明这些患者治愈不是通过其自身免疫抗体的作用，而是由于前面治疗方案的有效性。通过该治疗方案，122 名确诊患者中，有 101 人治愈有效达到出院标准（82.8%），转为重症患者 8 名（6.6%），治疗后核酸持续阳性患者 13 名（10.6%）。

3 月 25 日，我完成了 14 天的隔离，经过胸部 CT、咽拭子新冠核酸 RNA、血常规和血液新冠抗体的检查后，我安全的回到了自己熟悉的岗位，重新开始肿瘤放疗医师的职业生活。回顾这段时间，武汉的疫情从爆发-拐点-逐渐控制-取得阶段胜利，放疗中心在医院开诊后的 1 个半月，共收治 105 例放疗患者，其中头颈部 51 例，胸部 37 例，腹盆腔 17 例。在中国疫情爆发最为严重的武汉，我院放疗中心在开始接诊放疗患者的 6 周时间内，放疗患者和医务人员零感染。说明我们放疗中心团队在疫情期间采取的防护措施和流程是合理有效的，可以被其他的放疗中心予以借鉴。我将其进行了归纳和总结，最终这套流程被国际肿瘤放射治疗专业著名的绿皮杂志《Radiotherapy and Oncology》接受发表。目前新冠疫情在中国得到了有效控制，但欧美国家正处于疫情暴发过程中，由于缺乏抗疫相关经验，很多欧美国家的放疗中心肿瘤患者和医务人员都处于极度的惶恐和焦虑中，希望我们中心的防治流程和我本人的抗疫经历对各位放疗同道有所帮助。

附：绿皮杂志上发表全文及链接：Wei Wei, Dandan Zheng, Yu Lei, Shen Wu, Vivek Verma, Yongsheng Liu, Xueyan Wei, Jianping Bi, Desheng Hu, Guang Han. Radiotherapy Workflow and Protection Procedures During the Coronavirus Disease 2019 (COVID-19) Outbreak:

Experience of the Hubei Cancer Hospital in Wuhan, China. Radiother Oncol 2020 March 30. (Pre-proof in press) <https://www.sciencedirect.com/science/article/pii/S0167814020301638>



CRTOG 致华人放疗同仁的公开信

岂曰无衣, 与子同袍!

年初, 国内新冠肺炎疫情暴发, 海外华侨华人心系祖国, 纷纷慷慨解囊, 为祖国捐款捐物。这其中就活跃着众多海外华人放疗界的同仁们。一件件物资、一份份爱心, 体现了浓浓的同胞亲情和海外放疗同仁与祖国同呼吸、共命运的家国情怀。如今, 国内疫情得到基本控制, 海外疫情却扩散蔓延, 海外同仁们再次积极行动起来, 助力“第二故乡”抗击疫情。但由于疫情发展始料不及, 很多海外放疗同仁自己和家人的防护也是捉襟



见肘。



华人放疗协作组（Chinese Radiation Oncology Group, CRTOG）是世界华人肿瘤放射治疗工作者协作组织, 2016 年在济南成立, 于金明院士当选首任指导委员会主任委员、袁双虎教授任执行主委。目前 CRTOG 委员已遍布亚非欧美澳各大洲。值此抗“疫”的关键时刻, CRTOG 委员会决议与大家共克时艰。已多方联系采购了口罩等防疫物资, 特向全球华人放疗工作者发出公开信: 如果您或您的家人身处新冠疫区, 无论您是医生、护士、物理师、技师、工程师、研究员, 或是访问学者、博士后、留学生, 只要您是华人放疗工作者并需要帮助, 请将您的具体防疫物资需求、邮寄地址、邮政编码、收件人手机、微信号等联系方式用中文和当地语言同时书写清楚发送到联系邮箱。同时还请提供您的工牌和身份证明, 我们会尽最大努力提供帮助。另外, 为帮助到更多的人, 我们也向全体安全区的放疗同仁和社会各界及企事业单位征集捐助意愿。如果您有意捐助, 请发送拟捐赠的抗疫物资明细、数量和联系方式到联系邮箱。为提高效率, 我们会匹配信息以协助完成捐助者对需求者的直接捐赠。为方便沟通我们还同时开通了 CRTOG 抗疫群, 有明确捐助或需求意向者欢迎加入。

这场“战疫”还没有结束, 愿我们万众一心, 共克时艰, 愿大家在疫情中人人平安, 更加勇敢, 更加坚强!

青山一道, 同担风雨。岂曰无衣, 与子同袍!

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华人放疗协作组

COVID-19 Personal Protective Equipment (PPE): Donning and Doffing

Knowing the correct order for Donning (putting on) and Doffing (taking off) your Hospital Infection Control Personal Protective Equipment (PPE) is vital in the fight to stop the spread of this highly infectious disease. To help you remember these steps we've copied these posters from University of Nebraska website that you can download, print and distribute around your facility.

Donning Step 1: Perform Hand Hygiene

- Apply one pump of hand sanitizer to the cupped palm of one hand
- Rub hands palm to palm
- Rub the right palm over the back of the left hand with interlaced fingers and vice versa
- Rub both palms together with fingers interlaced
- With the left thumb clasped in the right palm, rub rotationally and switch
- Cup the hands and place the backs of fingers to opposing palms and rub side to side with fingers interlocked
- Rotationally rubbing the clasped fingers of the right hand in a circular pattern on the palm of the left hand and vice versa
- Continue to rub both hands together until the sanitizer is dry



Donning Step 1

Donning Step 2: Don Gown

- Double check gown for defect and untie any knots in the PPE
- Don the gown by inserting your arms into the sleeves with the opening to the back
- Tie the neck and waist ties in bows



Donning Step 2

that are easy to release as this will facilitate easy removal by eliminating the need to struggle with untying knots

Donning Step 3: Don N95 Respirator

- Hold the respirator in the palm of your hand with straps facing the floor
- Place N95 respirator on your face covering your nose and mouth
- Pull the bottom strap over the top of your head and place at the nape of your neck below the ear
- Pull the upper strap over and place it behind your head towards the crown of your head



Donning Step 3

- Mold the nose piece using pads of fingers over the cheeks and bridge of your nose to obtain a tight seal. Be careful not to pinch the nose
- Perform a seal check by taking a few deep breaths and feeling around the mask for escaping air to ensure there is good seal against the skin
- Staff must resist the temptation to adjust the N95 respirator while in the patient care area

Donning Step 4: Don Face Shield and/or Goggles

- Don the face shield so that the foam headpiece rests on your forehead
- If you are wearing goggles, ensure they are not interfering with the fit of the N95 respirator and are sitting comfortably and secure over your eyes
- Eyeglasses are not a substitute for eye protection. If you are wearing glasses for vision support, ensure they also are secure and comfortable.
- At no time should eye protection be readjusted in the patient care area.
- If face shield or goggles fog up it is likely because there is not a good seal of the N95 respirator to the healthcare workers face



Donning Step 4

Donning Step 5: Don Gloves

- Don patient care gloves to a size that is comfortable and conducive to providing patient care
- Prior to donning gloves, the gown cuff may need to be pulled towards the knuckles to prevent the gown sleeves from riding up.
- Ensure there is no skin exposed between the gown and glove cuffs.
- The white cuff of the gown should be completely covered by the glove.



Donning Step 5

Doffing Step 1: Perform Hand Hygiene

- Perform hand hygiene on the patient care gloves for a minimum of 20 seconds or until the hand sanitizer is dry



Doffing Step 1

Doffing Step 2: Doff Gown

- Carefully untie the gown at the waist and neck
- Doff the gown folding the outside of the gown tightly inward into a ball to contain the contaminated side
- Once your gown is contained, separate the gown from the gloves and place gently into the linen hamper



Doffing Step 2

Doffing Step 3: Gloves

- Remove the gloves utilizing “glove in glove” technique
- o Take your dominant hand and pinch the palm of the non-dominant hand and remove glove
- o Ball the removed glove into the hand of the remaining glove
- o Slide pointer finger of the free hand under the cuff of the remaining glove and remove
- o Place gently into the waste

Doffing Step 4: Perform Hand Hygiene

- Perform hand hygiene for a minimum of 20 seconds or until the hand sanitizer is dry



Doffing Step 4

Doffing Step 5: Face Shield

- The last item of PPE to come off in the patient care area is the face shield.
- To remove it, bend slightly forward and grasp the elastic head band on both sides of your head and pull it forward and away from your face.
- Place the face shield gently into the waste face down.



Doffing Step 5

Doffing Step 6: Exit the Patient Care Area

- As you exit the only item of PPE remaining is your N95 respirator.
- Exit the patient care room by opening the door, stepping out, and ensuring the door immediately and completely closes behind you.



Doffing Step 6

Doffing Step 7: Perform Hand Hygiene

- Perform hand hygiene for a minimum of 20 seconds or until the hand sanitizer is dry



Doffing Step 7

Doffing Step 8: N95 Respirator

- Lean near waste container and remove N95 one strap at a time
- First remove the bottom strap of the N95 with both hands and let dangle
- Then remove top strap of N95 with both hands and place gently into the trash



Doffing Step 8

Doffing Step 9: Perform Hand Hygiene

- Perform hand hygiene for a minimum of 20 seconds or until the hand sanitizer is dry



Doffing Step 9

Poetry

“胜出”平台真不易

夏云飞

主任医师 放射肿瘤学教授 博导

广州中山大学

“胜出”平台真不易，
中美华人齐努力。
学术交流遍各地，
海外无私传友谊。
策略标准有差异，
抗疫使命都一致。
人类共同命运体，
全球团结定胜利。

“胜出”为 SANTRO 的中文音译简称



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Ling Zhang works in Beijing HGPT Technology & Trade Co., Ltd., responsible for Strategic planning and business development. He has deep knowledge in Radiation Therapy and global network within community because of various positions in his 23 years career. He was Global Marketing manager in C-RAD in Sweden recently, and China Marketing Manager in Varian Medical Systems. He also took different positions in Siemens Healthineers in China. Ling holds a medical degree from Beijing Medical University.



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