The Joint Council on Thoracic Surgery Education (JCTSE), the American Board of Thoracic Surgery (ABTS), the Thoracic Surgery Directors Association (TSDA) and the Thoracic Surgery Resident Association (TSRA) have developed the new **Thoracic Surgical Curriculum** for resident education. To be implemented on August 1, 2013, the curriculum will be available to all residents, faculty, program directors and program coordinators in North America. **This communication is to provide an approach to how the Thoracic Surgical Curriculum can be introduced into your learning environment.**

As noted in a previous e-mail message, Dr. Craig Baker described the electronic Content Management System, known as Thoracic Surgery Brain (aka “webbrain”), which contains peer-reviewed educational materials based on the objectives of the ABTS curriculum. There are four main categories: core surgical foundation, cardiovascular surgery, thoracic surgery, and congenital disease. Each of these categories has defined topics which are subdivided into knowledge, patient management / clinical skills, and technical skills.

Previously, Dr. Ara Vaporciyan described accessing the electronic content and curriculum using a protected portal known as Moodle which provides a direct link to Thoracic Surgery Brain. The Thoracic Surgical Curriculum comprises a total of 88 topics for adult cardiovascular surgery (CV), thoracic surgery (TS), and congenital disease (CD). Further, the topics have been divided into basic levels and advanced levels. Using the list of topics, a number of sample templates have been created to assist in structuring the curriculum depending on your program’s specific needs. In the areas of CV and TS, it is expected that upon completion of a two-year traditional, three-year traditional, or integrated six-year program, all the basic and advanced content will have been reviewed. In the area of congenital disease, the basic content of each topic covers what traditional or integrated residents should know; the advanced content covers content for congenital surgical residents or fellows.

Because the intent of the Thoracic Surgical Curriculum is not to be prescriptive, the sample templates can be modified to fit your program’s needs. Based on the previous TSDA curriculum (known as the “TSDA Weekly Curricula”), the Thoracic Surgical Curriculum is designed to allow a two-year program to cover the 88 topics based on a weekly conference. However, some programs have separate weekly thoracic and cardiac surgery conferences. Some programs may prefer to navigate through topics sequentially, essentially completing one content area (i.e., thoracic surgery or TS) prior to embarking on CV. By default, a resident enrolled in a two-year training program will need to cover both the basic and advanced level content each week in order to complete the curriculum. A three-year program can spend more time on a given topic and tailor the curriculum to be completed over three years. Alternatively, a three-year program may decide to assign basic versus advanced topics at different years of training. For the integrated programs, one approach would be to expect PGY 1-3 residents to cover the basic CV and TS content prior to entering the final three years of training (PGY 4-6) which could be dedicated to the advanced CV and TS content.

For the **two-year traditional program**, one approach would be to alternate CV and TS topics during the year. For instance, the residents would be assigned readings in ischemic heart disease the week prior to the conference (e.g., Template 2, Week 17); the one-hour conference is then focused on the week's material. So, for the ischemic heart section (e.g., Template 2, Weeks 17-20), there would be four weeks of required readings and four one-hour conferences. One resident is assigned to lead the discussion with faculty input. The residents are to answer the quiz questions during that period (depending on number and focus of questions, they can either split them up on a weekly basis or do them at the end of four weeks). This approach of alternating CV and TS leaves the CD topics to be completed separately during their rotation on the congenital service. The other option is to have CD alternate with CV, TS and depending on the program’s didactic sessions and conferences.

For the **three-year traditional program**, a similar approach of alternating CV and TS topics during the year can be employed. The difference between two- and three-year programs is that the curriculum can be expanded to 114 weeks for CV and TS, and 18 weeks for CD (Template 4). For instance, residents
would be assigned readings in ischemic heart disease the week prior to the conference (e.g., Template 4, Week 31); the one-hour conference is focused on the week’s material. So, for the ischemic heart disease topic (e.g., Template 4, Weeks 31-38), there would be eight weeks of required readings and eight one-hour conferences. Again, the residents are to answer the quiz questions during that period (depending on number and focus of questions, they can either split them up on a weekly basis or do them at the end of eight weeks). Thus, this approach alternates CV and TS, and the CD is completed separately over 18 weeks during their rotation on the congenital service. Again, the other option is to have CD alternating with CV and TS depending on the program’s didactic sessions and conferences.

For the integrated-6 program, one can employ the approach to the three-year program with PGY 1-3 residents focused on the basic level of content, and the PGY 4-6 residents concentrating on the advanced levels (Templates 6 and 7). Thus, all residents will attend the same didactic conferences with input gauged to the level of training. The Stanford integrated program, for instance, employs the three-year curriculum (Template 6), with the current senior and chief residents engaged in additional self-study to make up portions of the curriculum that they will miss.

One important concept with the new curriculum is that both the resident and the faculty need to focus their educational efforts. The residents must spend time outside the hospital to review the assigned material. For the educational conferences to be meaningful, it should be directed at addressing what the residents do not understand, i.e., “flipping” the classroom, and instilling a deeper understanding of a particular subject.

Below are listed seven sample templates (three for two-year traditional program, two for three-year traditional programs, and two for integrated-6 programs). These templates can be further modified depending on whether you think the topic for a particular week may be shortened or lengthened.

**SUGGESTIONS:**

In conferring with educators and some program directors, the following is one possible method to structure the educational conferences.

1. Residents are assigned the topic for review the week before the conference.

2. One resident is responsible to lead the discussion by giving a 10-15 minute synopsis of what he/she has learned; as importantly, the resident should highlight areas that he/she does not understand and that need clarification (“flipping” the classroom).

3. One faculty member is assigned that week’s topic and is responsible to direct the discussion and to present clinically relevant issues and critical concepts pertaining to the topic (10-20 minutes). Additional journal articles (e.g., from Thoracic Surgery Brain), recent cases at the institution, and *TSRA Clinical Scenarios in Cardiothoracic Surgery* (in Moodle) can be used to supplement the discussion.

4. The final portion of the conference (20 minutes) can be focused on assessment using Moodle quizzes, which include new questions and previous SESATS questions, relevant SESATS 10 questions and faculty question/answer session.

**SAMPLE TEMPLATES:**

- **Template 1: Two-year curriculum:** 34 weeks of CV followed by 42 weeks of TS; may reverse for TS for 42 weeks and CV 34 weeks; CD for 12 weeks is separate and covered while on congenital service.

- **Template 2: Two-year curriculum:** CV (34 weeks) alternating with TS (42 weeks); must cover both basic and advanced; CD for 12 weeks is separate and covered while on congenital service.
- **Template 3: Two-year curriculum**: CV (34 weeks) alternating with TS (42 weeks) alternating with CD (12 weeks); must cover both basic and advanced levels.

- **Template 4: Three-year curriculum**: CV (34 topics) alternating with TS (42 topics) over 114 weeks; for basic and advanced; CD (12 topics) over 18 weeks is separate and covered while on congenital service.

- **Template 5: Three-year curriculum**: CV alternating with TS alternating with CD; 88 topics over 132 weeks; must cover basic and advanced levels.

- **Template 6: Integrated six-year curriculum**: Based on Template 4 (noted above) with basic level for PGY 1-3 and advanced level for PGY 4-6; CD (12 topics) over 18 weeks is separate and covered while on congenital service.

- **Template 7: Integrated six-year curriculum**: Based on Template 5 (noted above) with basic level for PGY 1-3 and advanced level for PGY 4-6.

These templates can also be downloaded from the [Thoracic Surgical Curriculum](http://example.com) page of TSDA.org.

Please let us know if you have any questions regarding the use of the Thoracic Surgical Curriculum. We look forward to your thoughts and comments.

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