**Pediatric Match Scenarios**

**Note: Test data for scenarios can be found in the Pediatric Match Test Cases 5-11-17 document.**

Scenario 1a - Happy Path - all specimens received on same day. Tumor = block

1. Pediatric match email group receives enrollment.
2. BPC receives blood and tumor block (FFPE).
   1. Blood receive in EDTA and Streck.
   2. 2 blocks, 1 timepoint = diagnosis and 1 timepoint = relapse
3. BPC accession specimens in STARS.
4. BPC removes plasma from Streck.
5. BPC sends specimens to CM and MGL for processing.
   1. Blood in EDTA and WBC from Streck.
6. BPC banks diagnosis block.
7. MGL extracts and QC DNA from blood specimens.
8. Core Morph cuts slide from tumor block (FFPE).
9. BPC picks up tumor block, stained slide, and unstained slides.
10. BPC takes slides to Pathologist for review and slide annotation.
11. BPC takes H&E annotated slides and unstained slides back to CM.
12. BPC enters path review data in STARS.
13. BPC coordinator receives paperwork from previous day and QC specimens.
    1. Surgical event ID assigned to tumor specimen.
    2. STARS poller sends specimen received messages.
14. Core Morph scrapes the tumor section of the slides into a vial.
15. BPC picks up stained slides and vial of scrapings.
16. BPC sends vial of scrapings to MGL.
17. BPC ends annotated slides to VM.
18. VM scans stained slides.
19. VM returns slide to BPC and BPC banks slide.
20. MGL extracts DNA and RNA from paraffin scrapings.
21. MGL creates cDNA and run QC on all nucleic acid specimens.
22. MGL creates aliquots for sequencing center.
23. MGL creates shipment in STARS and assigns specimens.
    1. Molecular ID assigned to nucleic acids.
    2. Creates shipping manifest.
24. MGL retables nucleic acid specimens with sequencing center requirements.
    1. Molecular ID in 2D barcode.
25. MGL provides shipping manifest and other documentation for Director review.
26. Approved specimens are transferred to BPC for shipping.
27. BPC collects paperwork for shipments and email sites for shipping verification.
28. VM makes stained H&E image available to MD Anderson in VIPER.
29. BPC ships nucleic acids to sequencing center and slides for IHC staining to MD Anderson.
    1. A shipped message is triggered to MATCHbox.

Scenario 1b - Happy path - all specimens received on same day. Tumor = Unstained Slides

1. Pediatric match email group receives enrollment.
2. BPC receives blood and tumor slides.
   1. Blood receive in EDTA and Streck.
   2. 50 slides, 25 timepoint = diagnosis and 25 timepoint = relapse
3. BPC accession specimens in STARS.
4. BPC removes plasma from Streck.
5. BPC sends specimens to CM and MGL for processing.
   1. Blood in EDTA and WBC from Streck.
6. BPC banks diagnosis slides.
7. MGL extracts and QC DNA from blood specimens.
8. Core Morph stains one slide and cleans the remaining unstained slides.
9. BPC picks up stained slide and unstained slides.
10. BPC takes slides to Pathologist for review and slide annotation.
11. BPC takes H&E annotated slides and unstained slides back to CM.
12. BPC enters path review data in STARS.
13. BPC coordinator receives paperwork from previous day and QC specimens.
    1. Surgical event ID assigned to tumor specimen.
    2. STARS poller sends specimen received messages.
14. Core Morph scrapes the tumor section of the slides into a vial.
15. BPC picks up stained slides and vial of scrapings.
16. BPC sends vial of scrapings to MGL.
17. BPC ends annotated slides to VM.
18. VM scans stained slides.
19. VM returns slide to BPC and BPC banks slide.
20. MGL extracts DNA and RNA from paraffin scrapings.
21. MGL creates cDNA and run QC on all nucleic acid specimens.
22. MGL creates aliquots for sequencing center.
23. MGL creates shipment in STARS and assigns specimens.
    1. Molecular ID assigned to nucleic acids.
    2. Creates shipping manifest.
24. MGL re labels nucleic acid specimens with sequencing center requirements.
    1. Molecular ID in 2D barcode.
25. MGL provides shipping manifest and other documentation for Director review.
26. Approved specimens are transferred to BPC for shipping.
27. BPC collects paperwork for shipments and email sites for shipping verification.
28. VM makes stained H&E image available to MD Anderson in VIPER.
29. BPC ships nucleic acids to sequencing center and slides for IHC staining to MD Anderson.
    1. A shipped message is triggered to MATCHbox.

Scenario 2 - Tumor arrives, short delay, blood arrives

1. Pediatric match email group receives enrollment.
2. BPC receives blood and tumor block (FFPE).
   1. 2 blocks, 1 timepoint = diagnosis and 1 timepoint = relapse
3. BPC accession specimens in STARS.
4. BPC sends specimens to CM.
5. BPC banks diagnosis block.
6. Core Morph cuts slide from tumor block (FFPE).
7. BPC picks up tumor block, stained slide, and unstained slides.
8. BPC takes slides to Pathologist for review and slide annotation.
9. BPC takes H&E annotated slides and unstained slides back to CM.
10. BPC enters path review data in STARS.
11. BPC coordinator receives paperwork from previous day and QC specimens.
    1. Surgical event ID assigned to tumor specimen.
    2. STARS poller sends specimen received messages.
12. BPC receives blood.
    1. Blood receive in EDTA and Streck.
13. BPC accession specimens in STARS.
14. BPC removes plasma from Streck.
15. BPC sends specimens to MGL for processing.
    1. Blood in EDTA and WBC from Streck.
16. MGL extracts and QC DNA from blood specimens.
17. Core Morph scrapes the tumor section of the slides into a vial.
18. BPC picks up stained slides and vial of scrapings.
19. BPC sends vial of scrapings to MGL.
20. BPC ends annotated slides to VM.
21. VM scans stained slides.
22. VM returns slide to BPC and BPC banks slide.
23. MGL extracts DNA and RNA from paraffin scrapings.
24. BPC coordinator receives paperwork from previous day and QC specimens.
    1. STARS poller sends specimen received messages.
25. MGL creates cDNA and run QC on all nucleic acid specimens.
26. MGL creates aliquots for sequencing center.
27. MGL creates shipment in STARS and assigns specimens.
    1. Molecular ID assigned to nucleic acids.
    2. Creates shipping manifest.
28. MGL retables nucleic acid specimens with sequencing center requirements.
    1. Molecular ID in 2D barcode.
29. MGL provides shipping manifest and other documentation for Director review.
30. Approved specimens are transferred to BPC for shipping.
31. BPC collects paperwork for shipments and email sites for shipping verification.
32. VM makes stained H&E image available to MD Anderson in VIPER.
33. BPC ships nucleic acids to sequencing center and slides for IHC staining to MD Anderson.
    1. A shipped message is triggered to MATCHbox.

Scenario 3- Blood arrives, short delay, tumor arrives

1. Pediatric match email group receives enrollment.
2. BPC receives blood.
   1. Blood receive in EDTA and Streck.
3. BPC accession specimens in STARS.
4. BPC removes plasma from Streck.
5. BPC sends specimens MGL for processing.
   1. Blood in EDTA and WBC from Streck.
6. MGL extracts and QC DNA from blood specimens.
7. BPC coordinator receives paperwork from previous day and QC specimens.
   1. STARS poller sends specimen received messages.
8. BPC receives blood and tumor block (FFPE).
   1. 2 blocks, 1 timepoint = diagnosis and 1 timepoint = relapse
9. BPC accession specimens in STARS.
10. BPC sends specimens to CM.
11. BPC banks diagnosis block.
12. Core Morph cuts slide from tumor block (FFPE).
13. BPC picks up tumor block, stained slide, and unstained slides.
14. BPC takes slides to Pathologist for review and slide annotation.
15. BPC takes H&E annotated slides and unstained slides back to CM.
16. BPC enters path review data in STARS.
17. BPC coordinator receives paperwork from previous day and QC specimens.
    1. Surgical event ID assigned to tumor specimen.
    2. STARS poller sends specimen received messages.
18. Core Morph scrapes the tumor section of the slides into a vial.
19. BPC picks up stained slides and vial of scrapings.
20. BPC sends vial of scrapings to MGL.
21. BPC ends annotated slides to VM.
22. VM scans stained slides.
23. VM returns slide to BPC and BPC banks slide.
24. MGL extracts DNA and RNA from paraffin scrapings.
25. MGL creates cDNA and run QC on all nucleic acid specimens.
26. MGL creates aliquots for sequencing center.
27. MGL creates shipment in STARS and assigns specimens.
    1. Molecular ID assigned to nucleic acids.
    2. Creates shipping manifest.
28. MGL retables nucleic acid specimens with sequencing center requirements.
    1. Molecular ID in 2D barcode.
29. MGL provides shipping manifest and other documentation for Director review.
30. Approved specimens are transferred to BPC for shipping.
31. BPC collects paperwork for shipments and email sites for shipping verification.
32. VM makes stained H&E image available to MD Anderson in VIPER.
33. BPC ships nucleic acids to sequencing center and slides for IHC staining to MD Anderson.
    1. A shipped message is triggered to MATCHbox.

Scenario 4 - Tumor arrives, long delay, blood arrives (blood DNA gets shipped after tumor nucleic acid specimens)

1. Pediatric match email group receives enrollment.
2. BPC receives blood and tumor block (FFPE).
   1. 2 blocks, 1 timepoint = diagnosis and 1 timepoint = relapse
3. BPC accession specimens in STARS.
4. BPC sends specimens to CM.
5. BPC banks diagnosis block.
6. Core Morph cuts slide from tumor block (FFPE).
7. BPC picks up tumor block, stained slide, and unstained slides.
8. BPC takes slides to Pathologist for review and slide annotation.
9. BPC takes H&E annotated slides and unstained slides back to CM.
10. BPC enters path review data in STARS.
11. BPC coordinator receives paperwork from previous day and QC specimens.
    1. Surgical event ID assigned to tumor specimen.
    2. STARS poller sends specimen received messages.
12. Core Morph scrapes the tumor section of the slides into a vial.
13. BPC picks up stained slides and vial of scrapings.
14. BPC sends vial of scrapings to MGL.
15. BPC ends annotated slides to VM.
16. VM scans stained slides.
17. VM returns slide to BPC and BPC banks slide.
18. MGL extracts DNA and RNA from paraffin scrapings.
19. BPC coordinator receives paperwork from previous day and QC specimens.
    1. STARS poller sends specimen received messages.
20. MGL creates cDNA and run QC on all nucleic acid specimens.
21. MGL creates aliquots for sequencing center.
22. MGL creates shipment in STARS and assigns specimens.
    1. Molecular ID assigned to nucleic acids.
    2. Creates shipping manifest.
23. MGL retables nucleic acid specimens with sequencing center requirements.
    1. Molecular ID in 2D barcode.
24. MGL provides shipping manifest and other documentation for Director review.
25. Approved specimens are transferred to BPC for shipping.
26. BPC collects paperwork for shipments and email sites for shipping verification.
27. VM makes stained H&E image available to MD Anderson in VIPER.
28. BPC ships nucleic acids to sequencing center and slides for IHC staining to MD Anderson.
    1. A shipped message is triggered to MATCHbox.
29. BPC receives blood.
    1. Blood receive in EDTA and Streck.
30. BPC accession specimens in STARS.
31. BPC removes plasma from Streck.
32. BPC sends specimens to MGL for processing.
    1. Blood in EDTA and WBC from Streck.
33. MGL extracts and QC DNA from blood specimens.
34. BPC coordinator receives paperwork from previous day and QC specimens.
    1. STARS poller sends specimen received messages.
35. MGL creates aliquots for sequencing center.
36. MGL creates shipment in STARS and assigns specimens.
    1. Molecular ID assigned to nucleic acids.
    2. Creates shipping manifest.
37. MGL relabels nucleic acid specimen with sequencing center requirements.
    1. Molecular ID in 2D barcode.
38. MGL provides shipping manifest and other documentation for Director review.
39. Approved specimen is transferred to BPC for shipping.
40. BPC collects paperwork for shipments and email sites for shipping verification.
41. BPC ships nucleic acid to sequencing center.
    1. A shipped message is triggered to MATCHbox.

Scenario 5 - Tumor arrives, long delay, no blood available

1. Pediatric match email group receives enrollment.
2. BPC receives blood and tumor block (FFPE).
   1. 2 blocks, 1 timepoint = diagnosis and 1 timepoint = relapse
3. BPC accession specimens in STARS.
4. BPC sends specimens to CM.
5. BPC banks diagnosis block.
6. Core Morph cuts slide from tumor block (FFPE).
7. BPC picks up tumor block, stained slide, and unstained slides.
8. BPC takes slides to Pathologist for review and slide annotation.
9. BPC takes H&E annotated slides and unstained slides back to CM.
10. BPC enters path review data in STARS.
11. BPC coordinator receives paperwork from previous day and QC specimens.
    1. Surgical event ID assigned to tumor specimen.
    2. STARS poller sends specimen received messages.
12. Core Morph scrapes the tumor section of the slides into a vial.
13. BPC picks up stained slides and vial of scrapings.
14. BPC sends vial of scrapings to MGL.
15. BPC ends annotated slides to VM.
16. VM scans stained slides.
17. VM returns slide to BPC and BPC banks slide.
18. MGL extracts DNA and RNA from paraffin scrapings.
19. BPC coordinator receives paperwork from previous day and QC specimens.
    1. STARS poller sends specimen received messages.
20. MGL creates cDNA and run QC on all nucleic acid specimens.
21. MGL creates aliquots for sequencing center.
22. MGL creates shipment in STARS and assigns specimens.
    1. Molecular ID assigned to nucleic acids.
    2. Creates shipping manifest.
23. MGL retables nucleic acid specimens with sequencing center requirements.
    1. Molecular ID in 2D barcode.
24. MGL provides shipping manifest and other documentation for Director review.
25. Approved specimens are transferred to BPC for shipping.
26. BPC collects paperwork for shipments and email sites for shipping verification.
27. VM makes stained H&E image available to MD Anderson in VIPER.
28. BPC ships nucleic acids to sequencing center and slides for IHC staining to MD Anderson.
    1. A shipped message is triggered to MATCHbox.

Scenario 6 – Blood arrives, lengthy delay, tumor arrives

1. Pediatric match email group receives enrollment.
2. BPC receives blood.
   1. Blood receive in EDTA and Streck.
3. BPC accession specimens in STARS.
4. BPC removes plasma from Streck.
5. BPC sends specimens MGL for processing.
   1. Blood in EDTA and WBC from Streck.
6. MGL extracts and QC DNA from blood specimens.
   1. Specimens banked in freezer until tumor arrives.
7. BPC coordinator receives paperwork from previous day and QC specimens.
   1. STARS poller sends specimen received messages.
8. BPC receives blood and tumor block (FFPE).
   1. 2 blocks, 1 timepoint = diagnosis and 1 timepoint = relapse
9. BPC accession specimens in STARS.
10. BPC sends specimens to CM.
11. BPC banks diagnosis block.
12. Core Morph cuts slide from tumor block (FFPE).
13. BPC picks up tumor block, stained slide, and unstained slides.
14. BPC takes slides to Pathologist for review and slide annotation.
15. BPC takes H&E annotated slides and unstained slides back to CM.
16. BPC enters path review data in STARS.
17. BPC coordinator receives paperwork from previous day and QC specimens.
    1. Surgical event ID assigned to tumor specimen.
    2. STARS poller sends specimen received messages.
18. Core Morph scrapes the tumor section of the slides into a vial.
19. BPC picks up stained slides and vial of scrapings.
20. BPC sends vial of scrapings to MGL.
21. BPC ends annotated slides to VM.
22. VM scans stained slides.
23. VM returns slide to BPC and BPC banks slide.
24. MGL extracts DNA and RNA from paraffin scrapings.
25. MGL creates cDNA and run QC on all nucleic acid specimens.
26. MGL creates aliquots for sequencing center.
27. MGL creates shipment in STARS and assigns specimens.
    1. Molecular ID assigned to nucleic acids.
    2. Creates shipping manifest.
28. MGL retables nucleic acid specimens with sequencing center requirements.
    1. Molecular ID in 2D barcode.
29. MGL provides shipping manifest and other documentation for Director review.
30. Approved specimens are transferred to BPC for shipping.
31. BPC collects paperwork for shipments and email sites for shipping verification.
32. VM makes stained H&E image available to MD Anderson in VIPER.
33. BPC ships nucleic acids to sequencing center and slides for IHC staining to MD Anderson.
    1. A shipped message is triggered to MATCHbox.

Scenario 7 – Blood arrives, lengthy delay, no tumor available

1. Pediatric match email group receives enrollment.
2. BPC receives blood.
   1. Blood receive in EDTA and Streck.
3. BPC accession specimens in STARS.
4. BPC removes plasma from Streck.
5. BPC sends specimens MGL for processing.
   1. Blood in EDTA and WBC from Streck.
6. MGL extracts and QC DNA from blood specimens.
   1. Specimens banked in freezer until tumor arrives.
7. BPC coordinator receives paperwork from previous day and QC specimens.
   1. STARS poller sends specimen received messages.

Scenario 8 – Nothing arrives - patient withdraws - nothing occurs on BPC end

Scenario 9 – Molecular failure - DNA/RNA does not meet requirements - cut more from existing block

1. Pediatric match email group receives enrollment.
2. BPC receives blood and tumor block (FFPE).
   1. Blood receive in EDTA and Streck.
   2. 2 blocks, 1 timepoint = diagnosis and 1 timepoint = relapse
3. BPC accession specimens in STARS.
4. BPC removes plasma from Streck.
5. BPC sends specimens to CM and MGL for processing.
   1. Blood in EDTA and WBC from Streck.
6. BPC banks diagnosis block.
7. MGL extracts and QC DNA from blood specimens.
8. Core Morph cuts slide from tumor block (FFPE).
9. BPC picks up tumor block, stained slide, and unstained slides.
10. BPC takes slides to Pathologist for review and slide annotation.
11. BPC takes H&E annotated slides and unstained slides back to CM.
12. BPC enters path review data in STARS.
13. BPC coordinator receives paperwork from previous day and QC specimens.
    1. Surgical event ID assigned to tumor specimen.
    2. STARS poller sends specimen received messages.
14. Core Morph scrapes the tumor section of the slides into a vial.
15. BPC picks up stained slides and vial of scrapings.
16. BPC sends vial of scrapings to MGL.
17. BPC ends annotated slides to VM.
18. VM scans stained slides.
19. VM returns slide to BPC and BPC banks slide.
20. MGL extracts DNA and RNA from paraffin scrapings.
21. MGL creates cDNA and run QC on all nucleic acid specimens.
22. MGL determine more material is needed to increase yield, volume, concentration, etc. of the nucleic acids.
23. MGL contacts BPC for additional slides be cut for extraction.
24. BPC sends block and HE slide to have more slides cut and scrapped.
25. Core Morph scrapes the tumor section of the slides into a vial.
26. BPC picks up block, stained slides, and vial of scrapings.
27. BPC sends vial of scrapings to MGL.
28. MGL extracts DNA and RNA from paraffin scrapings.
    1. MGL will combine nucleic acid specimens from both extractions if necessary.
29. MGL creates cDNA and run QC on all nucleic acid specimens.
30. MGL creates aliquots for sequencing center.
31. MGL creates shipment in STARS and assigns specimens.
    1. Molecular ID assigned to nucleic acids.
    2. Creates shipping manifest.
32. MGL retables nucleic acid specimens with sequencing center requirements.
    1. Molecular ID in 2D barcode.
33. MGL provides shipping manifest and other documentation for Director review.
34. Approved specimens are transferred to BPC for shipping.
35. BPC collects paperwork for shipments and email sites for shipping verification.
36. VM makes stained H&E image available to MD Anderson in VIPER.
37. BPC ships nucleic acids to sequencing center and slides for IHC staining to MD Anderson.
    1. A shipped message is triggered to MATCHbox.

Scenario 10 – Molecular failure - DNA/RNA does not meet requirements - request more from site, get more (will not go back to site for more, will send what we have)

Scenario 11 – Molecular failure - DNA/RNA does not meet requirements - request more from site, no more available (will not go back to site for more, will send what we have)

Scenario 12 – Blood received, tumor received, additional blood received

1. Pediatric match email group receives enrollment.
2. BPC receives blood and tumor block (FFPE).
   1. Blood receive in EDTA and Streck.
   2. 2 blocks, 1 timepoint = diagnosis and 1 timepoint = relapse
3. BPC accession specimens in STARS.
4. BPC removes plasma from Streck.
5. BPC sends specimens to CM and MGL for processing.
   1. Blood in EDTA and WBC from Streck.
6. BPC banks diagnosis block.
7. MGL extracts and QC DNA from blood specimens.
8. Core Morph cuts slide from tumor block (FFPE).
9. BPC picks up tumor block, stained slide, and unstained slides.
10. BPC takes slides to Pathologist for review and slide annotation.
11. BPC takes H&E annotated slides and unstained slides back to CM.
12. BPC enters path review data in STARS.
13. BPC coordinator receives paperwork from previous day and QC specimens.
    1. Surgical event ID assigned to tumor specimen.
    2. STARS poller sends specimen received messages.
14. Core Morph scrapes the tumor section of the slides into a vial.
15. BPC picks up stained slides and vial of scrapings.
16. BPC sends vial of scrapings to MGL.
17. BPC ends annotated slides to VM.
18. VM scans stained slides.
19. VM returns slide to BPC and BPC banks slide.
20. MGL extracts DNA and RNA from paraffin scrapings.
21. MGL creates cDNA and run QC on all nucleic acid specimens.
22. MGL creates aliquots for sequencing center.
23. MGL creates shipment in STARS and assigns specimens.
    1. Molecular ID assigned to nucleic acids.
    2. Creates shipping manifest.
24. MGL retables nucleic acid specimens with sequencing center requirements.
    1. Molecular ID in 2D barcode.
25. MGL provides shipping manifest and other documentation for Director review.
26. Approved specimens are transferred to BPC for shipping.
27. BPC collects paperwork for shipments and email sites for shipping verification.
28. VM makes stained H&E image available to MD Anderson in VIPER.
29. BPC ships nucleic acids to sequencing center and slides for IHC staining to MD Anderson.
    1. A shipped message is triggered to MATCHbox.
30. BPC receives an additional blood specimen.
31. BPC accession specimen in STARS.
32. BPC sends to MGL and/or process blood specimen.
    1. EDTA = send to MGL for extraction.
    2. Streck = remove plasma and send to MGL for extraction.
33. MGL extracts and QC DNA from blood specimens.
34. MGL banks blood DNA specimens.
35. BPC coordinator receives paperwork from previous day and QC specimens.
    1. STARS poller sends specimen received messages.
       1. Since blood does not have a surgical event ID and it doesn’t matter what blood is used, an additional blood message will be “ignored” by MATCHbox.

Scenario 13 – Blood received, tumor received (fails - nothing shipped out), additional tumor of a different SPID sent (will not go back to site for more, will send what we have)

Scenario 14 – Received tumor at two different times with two different SPIDs, both shipped

1. Pediatric match email group receives enrollment.
2. BPC receives blood and tumor block (FFPE).
   1. Blood receive in EDTA and Streck.
   2. 2 blocks, 1 timepoint = diagnosis and 1 timepoint = relapse
3. BPC accession specimens in STARS.
4. BPC removes plasma from Streck.
5. BPC sends specimens to CM and MGL for processing.
   1. Blood in EDTA and WBC from Streck.
6. BPC banks diagnosis block.
7. MGL extracts and QC DNA from blood specimens.
8. Core Morph cuts slide from tumor block (FFPE).
9. BPC picks up tumor block, stained slide, and unstained slides.
10. BPC takes slides to Pathologist for review and slide annotation.
11. BPC takes H&E annotated slides and unstained slides back to CM.
12. BPC enters path review data in STARS.
13. BPC coordinator receives paperwork from previous day and QC specimens.
    1. Surgical event ID assigned to tumor specimen.
    2. STARS poller sends specimen received messages.
14. Core Morph scrapes the tumor section of the slides into a vial.
15. BPC picks up stained slides and vial of scrapings.
16. BPC sends vial of scrapings to MGL.
17. BPC ends annotated slides to VM.
18. VM scans stained slides.
19. VM returns slide to BPC and BPC banks slide.
20. MGL extracts DNA and RNA from paraffin scrapings.
21. MGL creates cDNA and run QC on all nucleic acid specimens.
22. MGL creates aliquots for sequencing center.
23. MGL creates shipment in STARS and assigns specimens.
    1. Molecular ID assigned to nucleic acids.
    2. Creates shipping manifest.
24. MGL retables nucleic acid specimens with sequencing center requirements.
    1. Molecular ID in 2D barcode.
25. MGL provides shipping manifest and other documentation for Director review.
26. Approved specimens are transferred to BPC for shipping.
27. BPC collects paperwork for shipments and email sites for shipping verification.
28. VM makes stained H&E image available to MD Anderson in VIPER.
29. BPC ships nucleic acids to sequencing center and slides for IHC staining to MD Anderson.
    1. A shipped message is triggered to MATCHbox.
30. BPC receives an additional Relapse tumor block (FFPE).
    1. BPC verifies that new block should be used for new sequencing run.
31. BPC accession specimens in STARS.
32. BPC sends specimens to CM.
33. Core Morph cuts slide from tumor block (FFPE).
34. BPC picks up tumor block, stained slide, and unstained slides.
35. BPC takes slides to Pathologist for review and slide annotation.
36. BPC takes H&E annotated slides and unstained slides back to CM.
37. BPC enters path review data in STARS.
38. BPC coordinator receives paperwork from previous day and QC specimens.
    1. Surgical event ID assigned to tumor specimen.
    2. STARS poller sends specimen received messages.
39. Core Morph scrapes the tumor section of the slides into a vial.
40. BPC picks up stained slides and vial of scrapings.
41. BPC sends vial of scrapings to MGL.
42. BPC ends annotated slides to VM.
43. VM scans stained slides.
44. VM returns slide to BPC and BPC banks slide.
45. MGL extracts DNA and RNA from paraffin scrapings.
46. MGL creates cDNA and run QC on all nucleic acid specimens.
47. MGL creates aliquots for sequencing center.
48. MGL creates shipment in STARS and assigns specimens.
    1. Molecular ID assigned to nucleic acids.
    2. Creates shipping manifest.
49. MGL retables nucleic acid specimens with sequencing center requirements.
    1. Molecular ID in 2D barcode.
50. MGL provides shipping manifest and other documentation for Director review.
51. Approved specimens are transferred to BPC for shipping.
52. BPC collects paperwork for shipments and email sites for shipping verification.
53. VM makes stained H&E image available to MD Anderson in VIPER.
54. BPC ships nucleic acids to sequencing center and slides for IHC staining to MD Anderson.
    1. A shipped message is triggered to MATCHbox.

Scenario 15 – Blood, tumor received and shipped. Sequencing center requests additional blood DNA

1. Pediatric match email group receives enrollment.
2. BPC receives blood and tumor block (FFPE).
   1. Blood receive in EDTA and Streck.
   2. 2 blocks, 1 timepoint = diagnosis and 1 timepoint = relapse
3. BPC accession specimens in STARS.
4. BPC removes plasma from Streck.
5. BPC sends specimens to CM and MGL for processing.
   1. Blood in EDTA and WBC from Streck.
6. BPC banks diagnosis block.
7. MGL extracts and QC DNA from blood specimens.
8. Core Morph cuts slide from tumor block (FFPE).
9. BPC picks up tumor block, stained slide, and unstained slides.
10. BPC takes slides to Pathologist for review and slide annotation.
11. BPC takes H&E annotated slides and unstained slides back to CM.
12. BPC enters path review data in STARS.
13. BPC coordinator receives paperwork from previous day and QC specimens.
    1. Surgical event ID assigned to tumor specimen.
    2. STARS poller sends specimen received messages.
14. Core Morph scrapes the tumor section of the slides into a vial.
15. BPC picks up stained slides and vial of scrapings.
16. BPC sends vial of scrapings to MGL.
17. BPC ends annotated slides to VM.
18. VM scans stained slides.
19. VM returns slide to BPC and BPC banks slide.
20. MGL extracts DNA and RNA from paraffin scrapings.
21. MGL creates cDNA and run QC on all nucleic acid specimens.
22. MGL creates aliquots for sequencing center.
23. MGL creates shipment in STARS and assigns specimens.
    1. Molecular ID assigned to nucleic acids.
    2. Creates shipping manifest.
24. MGL retables nucleic acid specimens with sequencing center requirements.
    1. Molecular ID in 2D barcode.
25. MGL provides shipping manifest and other documentation for Director review.
26. Approved specimens are transferred to BPC for shipping.
27. BPC collects paperwork for shipments and email sites for shipping verification.
28. VM makes stained H&E image available to MD Anderson in VIPER.
29. BPC ships nucleic acids to sequencing center and slides for IHC staining to MD Anderson.
    1. A shipped message is triggered to MATCHbox.
30. Sequencing center requests additional blood DNA.
31. MGL creates an aliquot of blood DNA and assigns to STARS shipment.
    1. Molecular ID assigned to nucleic acids.
    2. Creates shipping manifest.
32. MGL retables nucleic acid specimens with sequencing center requirements.
    1. Molecular ID in 2D barcode.
33. MGL provides shipping manifest and other documentation for Director review.
34. Approved specimens are transferred to BPC for shipping.
35. BPC collects paperwork for shipments and email sites for shipping verification.
36. BPC ships nucleic acids to sequencing center.
    1. A shipped message is triggered to MATCHbox.

Scenario 16a – Blood, tumor received and shipped. Sequencing center requests additional tumor DNA/cDNA.

1. Pediatric match email group receives enrollment.
2. BPC receives blood and tumor block (FFPE).
   1. Blood receive in EDTA and Streck.
   2. 2 blocks, 1 timepoint = diagnosis and 1 timepoint = relapse
3. BPC accession specimens in STARS.
4. BPC removes plasma from Streck.
5. BPC sends specimens to CM and MGL for processing.
   1. Blood in EDTA and WBC from Streck.
6. BPC banks diagnosis block.
7. MGL extracts and QC DNA from blood specimens.
8. Core Morph cuts slide from tumor block (FFPE).
9. BPC picks up tumor block, stained slide, and unstained slides.
10. BPC takes slides to Pathologist for review and slide annotation.
11. BPC takes H&E annotated slides and unstained slides back to CM.
12. BPC enters path review data in STARS.
13. BPC coordinator receives paperwork from previous day and QC specimens.
    1. Surgical event ID assigned to tumor specimen.
    2. STARS poller sends specimen received messages.
14. Core Morph scrapes the tumor section of the slides into a vial.
15. BPC picks up stained slides and vial of scrapings.
16. BPC sends vial of scrapings to MGL.
17. BPC ends annotated slides to VM.
18. VM scans stained slides.
19. VM returns slide to BPC and BPC banks slide.
20. MGL extracts DNA and RNA from paraffin scrapings.
21. MGL creates cDNA and run QC on all nucleic acid specimens.
22. MGL creates aliquots for sequencing center.
23. MGL creates shipment in STARS and assigns specimens.
    1. Molecular ID assigned to nucleic acids.
    2. Creates shipping manifest.
24. MGL retables nucleic acid specimens with sequencing center requirements.
    1. Molecular ID in 2D barcode.
25. MGL provides shipping manifest and other documentation for Director review.
26. Approved specimens are transferred to BPC for shipping.
27. BPC collects paperwork for shipments and email sites for shipping verification.
28. VM makes stained H&E image available to MD Anderson in VIPER.
29. BPC ships nucleic acids to sequencing center and slides for IHC staining to MD Anderson.
    1. A shipped message is triggered to MATCHbox.
30. Sequencing center requests additional tumor DNA/cDNA.
    1. Tumor DNA and cDNA will always be shipped together.
31. MGL creates an aliquot of tumor DNA and cDNA, assigns to STARS shipment.
    1. Molecular ID assigned to nucleic acids.
    2. Creates shipping manifest.
32. MGL retables nucleic acid specimens with sequencing center requirements.
    1. Molecular ID in 2D barcode.
33. MGL provides shipping manifest and other documentation for Director review.
34. Approved specimens are transferred to BPC for shipping.
35. BPC collects paperwork for shipments and email sites for shipping verification.
36. BPC ships nucleic acids to sequencing center.
    1. A shipped message is triggered to MATCHbox.

Scenario 16b – Blood, tumor received and shipped. MD Anderson request additional slides for IHC.

1. Pediatric match email group receives enrollment.
2. BPC receives blood and tumor block (FFPE).
   1. Blood receive in EDTA and Streck.
   2. 2 blocks, 1 timepoint = diagnosis and 1 timepoint = relapse
3. BPC accession specimens in STARS.
4. BPC removes plasma from Streck.
5. BPC sends specimens to CM and MGL for processing.
   1. Blood in EDTA and WBC from Streck.
6. BPC banks diagnosis block.
7. MGL extracts and QC DNA from blood specimens.
8. Core Morph cuts slide from tumor block (FFPE).
9. BPC picks up tumor block, stained slide, and unstained slides.
10. BPC takes slides to Pathologist for review and slide annotation.
11. BPC takes H&E annotated slides and unstained slides back to CM.
12. BPC enters path review data in STARS.
13. BPC coordinator receives paperwork from previous day and QC specimens.
    1. Surgical event ID assigned to tumor specimen.
    2. STARS poller sends specimen received messages.
14. Core Morph scrapes the tumor section of the slides into a vial.
15. BPC picks up stained slides and vial of scrapings.
16. BPC sends vial of scrapings to MGL.
17. BPC ends annotated slides to VM.
18. VM scans stained slides.
19. VM returns slide to BPC and BPC banks slide.
20. MGL extracts DNA and RNA from paraffin scrapings.
21. MGL creates cDNA and run QC on all nucleic acid specimens.
22. MGL creates aliquots for sequencing center.
23. MGL creates shipment in STARS and assigns specimens.
    1. Molecular ID assigned to nucleic acids.
    2. Creates shipping manifest.
24. MGL retables nucleic acid specimens with sequencing center requirements.
    1. Molecular ID in 2D barcode.
25. MGL provides shipping manifest and other documentation for Director review.
26. Approved specimens are transferred to BPC for shipping.
27. BPC collects paperwork for shipments and email sites for shipping verification.
28. VM makes stained H&E image available to MD Anderson in VIPER.
29. BPC ships nucleic acids to sequencing center and slides for IHC staining to MD Anderson.
    1. A shipped message is triggered to MATCHbox.
30. MD Anderson requests additional slides for IHC staining.
31. BPC sends paraffin block to CM to cut additional slides.
    1. Will pull unstained slides if that is what was received from the submitting institution.
32. CM cuts slides and sends slide(s) and block back to BPC.
33. BPC collects paperwork for shipments and email sites for shipping verification.
34. BPC ships nucleic acids to sequencing center and slides for IHC staining to MD Anderson.
    1. A shipped message is triggered to MATCHbox.

Scenario 17 – Tumor received, no blood available, get the OK to use diagnosis blood from earlier protocol. (COG did not think this was a likely scenario and would only like to use blocks from other protocols)

Scenario 18 – Patient enrolled on APEC1621, institution ask to use specimen sent for another protocol/banking protocol.

1. Pediatric match email group receives enrollment.
2. Institution contacts BPC to see if Relapse specimens are available from a previous submission for a different protocol. BPC confirms.
3. Institution contacts protocol chair/disease chair for the protocol to obtain permission to use specimens for APEC1621.
4. Protocol chair/disease chair provides approval.
5. BPC pulls block/slide specimen and ficolled/lysed blood specimens from the bank.
6. BPC adds APEC1621 protocol to original received parents as well as child specimens in STARS.
   1. EX: for blood specimens, protocol should be added to the blood fresh specimen received and the child specimen that will be used for testing.
7. BPC coordinator will re QC specimens after protocol is added.
   1. Surgical event ID assigned to tumor specimen.
   2. STARS poller sends specimen received messages.
8. BPC sends specimens to CM and MGL for processing.
9. MGL extracts and QC DNA from blood specimen.
10. Core Morph cuts slide from tumor block (FFPE).
11. BPC picks up tumor block, stained slide, and unstained slides.
12. BPC takes slides to Pathologist for review and slide annotation.
13. BPC takes H&E annotated slides and unstained slides back to CM.
14. BPC enters path review data in STARS.
15. Core Morph scrapes the tumor section of the slides into a vial.
16. BPC picks up stained slides and vial of scrapings.
17. BPC sends vial of scrapings to MGL.
18. BPC ends annotated slides to VM.
19. VM scans stained slides.
20. VM returns slide to BPC and BPC banks slide.
21. MGL extracts DNA and RNA from paraffin scrapings.
22. MGL creates cDNA and run QC on all nucleic acid specimens.
23. MGL creates aliquots for sequencing center.
24. MGL creates shipment in STARS and assigns specimens.
    1. Molecular ID assigned to nucleic acids.
    2. Creates shipping manifest.
25. MGL retables nucleic acid specimens with sequencing center requirements.
    1. Molecular ID in 2D barcode.
26. MGL provides shipping manifest and other documentation for Director review.
27. Approved specimens are transferred to BPC for shipping.
28. BPC collects paperwork for shipments and email sites for shipping verification.
29. VM makes stained H&E image available to MD Anderson in VIPER.
30. BPC ships nucleic acids to sequencing center and slides for IHC staining to MD Anderson.
    1. A shipped message is triggered to MATCHbox.

Scenario 19 – Patient enrolled, has DX of DIPG, sent DX block for match testing.

1. Pediatric match email group receives enrollment.
2. BPC receives blood and tumor block (FFPE).
   1. Blood receive in EDTA and Streck.
   2. 1 block, timepoint = Diagnosis (DIPG ONLY)
3. BPC accession specimens in STARS.
4. BPC removes plasma from Streck.
5. BPC sends specimens to CM and MGL for processing.
   1. Blood in EDTA and WBC from Streck.
6. BPC banks diagnosis block.
7. MGL extracts and QC DNA from blood specimens.
8. Core Morph cuts slide from tumor block (FFPE).
9. MGL extracts and QC DNA from blood specimens.
10. Core Morph cuts slide from tumor block (FFPE).
11. BPC picks up tumor block, stained slide, and unstained slides.
12. BPC takes slides to Pathologist for review and slide annotation.
13. BPC takes H&E annotated slides and unstained slides back to CM.
14. BPC enters path review data in STARS.
15. Core Morph scrapes the tumor section of the slides into a vial.
16. BPC picks up stained slides and vial of scrapings.
17. BPC sends vial of scrapings to MGL.
18. BPC ends annotated slides to VM.
19. VM scans stained slides.
20. VM returns slide to BPC and BPC banks slide.
21. MGL extracts DNA and RNA from paraffin scrapings.
22. MGL creates cDNA and run QC on all nucleic acid specimens.
23. MGL creates aliquots for sequencing center.
24. MGL creates shipment in STARS and assigns specimens.
    1. Molecular ID assigned to nucleic acids.
    2. Creates shipping manifest.
25. MGL retables nucleic acid specimens with sequencing center requirements.
    1. Molecular ID in 2D barcode.
26. MGL provides shipping manifest and other documentation for Director review.
27. Approved specimens are transferred to BPC for shipping.
28. BPC collects paperwork for shipments and email sites for shipping verification.
29. VM makes stained H&E image available to MD Anderson in VIPER.
30. BPC ships nucleic acids to sequencing center and slides for IHC staining to MD Anderson.
    1. A shipped message is triggered to MATCHbox.