5th Edition NetCord-FACT International Standards
for Cord Blood Collection, Banking, and Release for Administration

Summary of Changes

This document summarizes the changes made to the 5th edition of the *NetCord-FACT International Standards for Cord Blood Collection, Banking, and Release for Administration*. This summary does not list all changes made to the Standards; refer to the final Cord Blood Standards and the accompanying Accreditation Manual for all requirements effective September 29, 2013.

Changes made to the 5th edition Cord Blood Standards and/or its accompanying Accreditation Manual include:

Global Changes

1. The 5th edition only distinguishes between unrelated and related CB units because it is often unknown at the time of banking whether a related unit will be released for allogeneic or autologous use.
    a. Previous editions of the NetCord-FACT Standards distinguished requirements among unrelated allogeneic, directed allogeneic, and autologous CB units, and those requirements were tied closely with the type of CB Collection Site (fixed or nonfixed).
    b. The type of donation is no longer tied with a certain type of CB Collection Site because 1) CB collection procedures and facilities must meet all minimum requirements, regardless if the site is fixed or nonfixed unless otherwise specified and 2) nonfixed sites are increasingly being used for collection of unrelated CB units.
    c. The collection site requirements were rearranged accordingly in the following categories: (C1)
        i. Written agreements,
        ii. Physical site,
        iii. Collection kit, and
        iv. Records.
2. Revisions throughout the Standards and Accreditation Manual reflect the role of the quality unit.
    a. The quality unit is defined as personnel with responsibility for and authority to approve or reject in-process materials, all components, cord blood unit containers, closures, packaging material, labeling, and cord blood units.
    b. Cord Blood Banks (CBBs) must have a quality unit, including a Quality Unit Supervisor. The unit may consist of one or more individuals. (B1.6.5)
    c. The purpose of the quality unit is to provide independent, objective oversight of the quality of cord blood units. Its reporting structure must be independent of the manufacture of CB units. (B1.6.5.2)

3. Definitions were revised to clarify the purpose of each sample, and terminology was revised throughout the Standards and Accreditation Manual accordingly.
    a. Samples are collected at various points in time (at collection, after processing, etc.) from various sources (maternal donor, cord blood unit, etc.).
4. Some redundancies existed to assist CBBs with ensuring requirements were met in all phases of the process (collection, processing, etc.). Where appropriate, this duplication was removed and clarified to increase the efficiency of self-assessments and on-site inspections.
    a. Standards related to document control (including document review, revision, maintenance, and archival) were kept in B2 Quality Management (QM).
    b. Policy and Standard Operating Procedures (SOPs) requirements were relocated to a new section, B3.
    c. Required SOPs for QM activities remain in the QM section (B2). Standard B3.1 specifically states that the SOPs required in B3 are in addition to those required in B2.
5. Because collection sites often only collect donor history and samples for future suitability and eligibility determination by the central facility, standards related to evaluation and determination were moved to the Cord Blood Bank Operations section. (B5 and C5)
    a. For clarity, related standards in the Maternal and Infant Donor Evaluation section (C5) were reorganized into the following categories:
        i. Policies (C5.1),
        ii. Process (C5.2),
        iii. Medical and genetic history (C5.3),
        iv. Communicable disease risk history (C5.4),
        v. Infant donor screening and testing (C5.5), and
        vi. Maternal samples, to include assessment of plasma dilution (C5.6).
    b. Review of the communicable disease risk history of sperm, egg, and embryo donors is only required if the donation comes from a bank not licensed in accordance with Applicable Law. (C5.4.6)
    c. CBBs that store and release cord blood units that do not meet donor eligibility requirements in accordance with Applicable Law must document an urgent medical need for the units when distributed. (E3.3.1.2, E4.3.1)
6. The Accreditation Manual was reorganized to better reflect the meaning of guidance information.
    a. Explanation: Discusses the rationale and meaning of a standard.
    b. Evidence: Describes what an inspector may review to verify compliance. Inspectors are not restricted to these methods.
    c. Example(s): Various ways to comply with a standard. Also includes information specific to the United States of America (U.S.), the European Union (EU), Australia (TGA), and Canada (Health Canada) for some standards.

Quality Management and Operational Changes

7. The fifth edition requires that claims made in advertising be supported by scientific evidence. (B1.3)
    a. While cord blood holds great promise for the alleviation of suffering caused by a variety of illnesses, there are only a few proven indications.
    b. CBBs are responsible for truthful advertising to the public in regards to both the uses of cord blood and the activities that are FACT-NetCord accredited.
8. Cord Blood Bank Director experience requirements are more specific. (B1.6.1)
    a. With increasing uses of cord blood, CBB Directors' qualifications are becoming more diverse.
    b. To clarify that CBB Directors must have experience that extends to the use of cord blood units for clinical transplantation and/or regenerative medicine, the standard was revised to require CBB Directors to have a minimum of two (2) years of experience in immunogenetics of transplantation, basic or clinical immunology, immunohematology, basic or clinical hematology, transfusion medicine, blood or tissue banking, or cryobiology.
9. Several changes to the Quality Management section were incorporated. (B2)
    a. Annual and quarterly QM reports (B2.1.3 and B2.1.4):
        i. The annual report contains data from a period of time longer than one quarter; quarterly reports can be based around minutes from the regular quality management meetings and should summarize activities such as training performed, documents reviewed, audits performed and procedures introduced or amended. They are intended to demonstrate that a quality management system is functioning and being monitored.
        ii. The annual report must always be performed to take a longitudinal look at how the QM program is performing. CBBs may incorporate this into their quarterly reports as long as the report also includes at least an annual view of the QM functions.
    b. Documentation of relationship with IT services and outcomes databases is required. (B2.2)
    c. Written agreements (B2.3.2): Agreements must be dated, reviewed, and renewed regularly. This is to prevent outdated agreements and to encourage programs to review their agreements to ensure they are still in compliance with the Standards and with Applicable Law.
    d. Interruption of Operations (B2.8): This requirement no longer pertains to just computer systems, but to other types of interruptions such as drug shortages, power outages, equipment failures, etc. that do not rise to the level of a disaster (which is covered under the SOP requirement for disaster plans).
        i. It is understood that it is difficult to anticipate every possible situation that may occur.
        ii. The Standards do not require CBBs to outline actions for specific events; rather, the bank is required to describe actions to take when an interruption presents, including who needs to be contacted, how to

prioritize cases, and key personnel to be involved in identifying alternative steps to continue functions.

e. Audits to verify external facilities performing critical contracted services meet the requirements of written agreements are required. This does not require on-site audits, although those are acceptable. Other methods to audit external facilities include desk audits, questionnaires, etc. (B2.10.7)
f. Corrective action requirements were clarified to include (B2.11.7):
    i. Documentation of the nature of the problem and the identity and disposition of the affected CB unit if indicated.
    ii. Maintenance of documentation of corrective action and a designated timeframe at which the outcome of the action will be evaluated.
    iii. Evaluation by the appropriate Director, the quality unit, and other appropriate staff.
g. Change control was added to this section (B2.5).
    i. Proper change control prevents unintended consequences throughout the operation and ensures personnel are aware of how the changes impact them.
    ii. The Standards include a list of requirements for effectively implementing changes.
h. Specific validation requirements were added because validation is often misunderstood by CBBs seeking initial accreditation and new personnel at accredited banks. (B2.13.2)
    i. The Standards now list specifically required elements of a validation study.
    ii. These new requirements are not intended to be prescriptive; they are meant to help CBBs design effective validation studies.
i. CBBs must review outcomes of individual CB units and at the aggregate level. (B2.15).
    i. This is not a new requirement; however, it was not explicit, causing banks to misunderstand the purpose of outcome analysis.
    ii. There has been increasing pressure from regulatory agencies to assign expiration dates to CB units. Because expiration is not known, CBBs must have a stability program and a plan for defining an expiration date. The stability program must evaluate a minimum of three CB units per manufacturing method on an annual basis.

10. The list of items that must be covered in a policy and/or procedure was updated. (B3)
    a. New required topics include:
        i. Interaction between the CB Collection Site and the CBB,
        ii. Completion of records at the CB Collection Site,
        iii. Acceptable levels of hemodilution of samples used for testing,
        iv. CB unit recall to include a description of responsibilities and actions to be taken, including notification of appropriate regulatory agencies, and
        v. Materials management.

b. Only SOPs relevant to processes being performed must be readily available to the facility staff. That is, the entire SOP Manual does not need to be present in its entirety to each staff member regardless if they perform only a few of the procedures. The procedures they do perform must be readily available.
c. The Standards were revised to clarify that an SOP can be implemented even if all staff members have not been trained. No staff member can perform the SOP until he or she has been trained.

11. An implementation plan for ISBT 128 coding and labeling is now required of CBBs that have not fully implemented this technology. (B6.1.2)
    a. The ISBT 128 Cellular Therapy Coding and Labeling Advisory Group has provided many resources and education to help centers implement ISBT 128 technology. See the ICCBBA website: http://www.iccbba.org/subject-area/cellular-therapy for resources.
12. Other labeling changes include:
    a. The labeling standards were generally reorganized to distinguish between the requirements for pre-ordered labels and print-on-demand labels. (B6.2)
    b. A controlled labeling procedure that includes a verification step must be used if container label information is transmitted electronically, such as with a bar code. Facilities must have a careful process for electronically transmitting information and to double check the information rather than becoming solely dependent on the technology to work correctly. (B6.3.2.2)
    c. Biohazard and warning label requirements are no longer included in an appendix. The Standards adopt the requirements outlined in the inter-organizational Circular of Information for the Use of Cellular Therapy Products, "Table 2. Biohazard and Warning Labels on Cellular Therapy Products Collected, Processed, and/or Administered in the United States." Because this document is under a different revision schedule, the table is now only referenced to prevent the use of obsolete requirements. The current inter-organizational Circular of Information can be found on the FACT website at www. factwebsite.org > Education and Resources > Resources.
13. Changes to requirements for equipment include:
    a. Equipment should be used in accordance with manufacturer's instructions. Nonconformance with this recommendation will only result in a variance. It is understood that some equipment not specifically designed for cord blood may need to be used. (B7.1.1)
    b. Equipment must be used in a manner that prevents mix-ups, contamination, and cross-contamination and that does not compromise unit function and integrity (B7.2)
    c. Calibration requirements were added for equipment that performs a critical measuring function. (B7.5.2 and B7.5.3)
    d. CBBs must have a procedure for actions to take in the event equipment malfunctions. (B7.6.3)

14. Many requirements for inventory transfer were removed to focus on the responsibility of the receiving facility. (B10)
    a. Requirements for inventory transfer were difficult for CBBs to meet if they do not anticipate transferring inventory.
15. The fifth edition defines critical electronic record systems. (B11.8)
    a. The scope of the Standards includes systems within the control of the facilities requesting accreditation, not hospital-wide electronic record systems over which facilities have no control.
    b. A system is considered critical and within the scope of the Standards if they meet at least one of the following criteria:
        i. The system is used in lieu of paper. If a paper record is generated by a system, and the paper record is verified and then maintained as the official record, this use would not be considered to be used in lieu of paper. If a paper record is generated by the system but the electronic version is the official record, then it would be considered to be used in lieu of paper.
        ii. The system is used to make decisions. Some CBBs have systems that serve as data repositories for future reference, but decisions are not made with them. These would not be considered critical.
        iii. The system performs calculations. If the system performs calculations for personnel rather than the personnel manually performing them, this would be a critical system.
        iv. The system creates and/or stores information used in critical procedures. Any system used as part of critical procedures is considered a critical system.

Cord Blood Collection Changes

16. Continuous temperature monitoring requirements for CB units distributed to the CB Processing Facility differ from cryopreserved CB units distributed to Clinical Programs. (C1 and C7)
    a. The draft Standards originally required both a validation of the outer container containing collection kits or cord blood units and continuous temperature monitoring inside the container during shipping. Many commenters felt continuous monitoring was burdensome since the container has already been validated.
    b. The requirement was revised to require only a validated container for shipping kits to collection sites; however, continuous temperature monitoring is still required for shipping units to the CBB.
17. The fifth edition replaces the collection consent/full consent concept with requirements that the CBB only performs steps for which it has informed consent, including collection, processing, and long-term storage. (C4)
    a. CBBs use a wide variety of informed consent models, including a full consent before presenting for labor, a “mini” consent for collection with full consent obtained after delivery, etc.

Cord Blood Processing Changes

18. Environmental monitoring standards were expanded and clarified. (D1)
    a. New requirements include an inspection of environmental control systems; definition, control, monitoring, and recording of facility parameters; and monitoring of viable and nonviable particles if appropriate in addition to other conditions.
19. The fifth edition emphasizes that units that do not meet criteria for clinical administration may still serve a purpose. (D9)
    a. This section used to pertain only to CB unit disposal, however, CBBs 1) must set criteria for CB units used for specific purposes and 2) may retain units for research or quality control when they are not suitable for clinical administration.
    b. A policy is required for the disposition of CB units, including at a minimum:
        i. Release for clinical use,
        ii. Research,
        iii. Quality assurance, and
        iv. Discard.
    c. CBBs must address nonconforming units in written policies.
    d. Disposal policies must address who is authorized to discard CB units, the process for disposal of units processed before informed consent is obtained, and additional specifications for related units.
20. Laboratory testing controls for tests performed within the CB Processing facility were introduced. (D10.2)
    a. New requirements include:
        i. Use of controls.
        ii. Calibration and standardization of reagents and equipment.
        iii. Staff training and proficiency testing.
    b. These requirements are only applicable to tests that are available from laboratories certified or accredited.
        i. Includes tests such as flow cytometry testing and cell counts using a hematology analyzer.
        ii. Requirements would not be applicable to testing such as CFU assays.
21. To provide a quick and clear reference to testing requirements, Appendix III, Testing Requirements, lists required specifications and tests and which sample must be tested. The text of the Standards refers to this appendix rather than listing the tests several times throughout the document. (D10, D11, and Appendix III)
    a. Additional requirements for specific tests are included in D10 and D11.
    b. CBBs must define tests and procedures for measuring and assaying CB units to determine their safety, viability, and integrity and to document that units meet predetermined release specifications.
    c. Alternatives to CFU assays are acceptable as long as they are validated by the CBB to provide acceptable results. Such alternatives do not replace total and viable CD34 assays; those assays are still required.

22. Other cord blood processing changes include:
    a. Expanded criteria for CB unit acceptance at the Cord Blood Processing Facility (D4.1).
    b. Critical control points and their specifications must be identified (D4.2.4.1 and D4.2.4.2).
    c. Requirements for methods for aseptic technique and minimization of risk of mix-ups and cross-contamination are more explicit (D4.2.5).
    d. Retention samples are recommended. Retention samples are useful for investigating adverse events or retroactive quality control activities (D5.2).
    e. Additional requirements for storage conditions (D7).

Cord Blood Selection and Release Changes

23. Test results that must be reviewed and shared with the Clinical Program are referenced in Appendix III. (E2, E3)