

STANDARDIZED PRINTING AND BAR CODING OF RBC PHENOTYPE ON LABELS

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BACKGROUND

There is currently no standardized method of printing red cell phenotype results on a blood label. Different facilities list the antigens in a different order and place the information in different places on the label. Results are often handwritten and difficult to read. This can lead to confusion on the part of the facility receiving phenotyped units. Worse, handwritten labels and lack of electronically-readable information can lead to errors since computers cannot be used to confirm correctness of the label.

METHODS

A subcommittee from the Americas Technical Advisory Group (ATAG) of ICCBBA evaluated the current situation and how it might be improved. The MAK users' group (MUG) had previously determined the preferred order of antigens on a label. Printer experts were consulted for advice on how to differentiate similar characters (specifically, c and C, s and S, and k and K).

RESULTS

After thorough analysis the ATAG recommended:

1. Red cell phenotype results should be printed in the order recommended by the MUG. That is:
 - Negative results for high incidence antigens
 - "Common" antigens (e.g., M, N, S, s, C, c, E, e, K, Fy^a, Fy^b, Jk^a, Jk^b)
 - Common low incidence antigens (e.g., C^w, V, VS, Kp^a, Js^a)
 - Miscellaneous antigens (e.g., f, Rh7, G, Xg^a, Do^a)
 - Other low incidence antigens

Within each of the 5 tiers, antigens are printed in the order of their ISBT antigen numbers (e.g., C which is 004002 is printed before E which is 004003).

2. For legibility, a minimum font size of 7 should be used. With the three pairs of antigens that are similar in appearance, the lower case letters should be printed in white on black (similar to RhD negative printing).
3. Separators (commas, semi-colons) are optional.
4. Since space may be an issue, either Fy(a+) or Fya+ are acceptable.
5. Common terms should be used whenever possible [e.g., Fya+ rather than FY:1].
6. Phenotypes should be electronically-readable (bar coded) using one of two ISBT 128 data structures (012 or 030).

A guidance document detailing these recommendations is available on the ICCBBA website.



Scan to link to document.

CONCLUSIONS

Given the criticality of red cell phenotype information to patient safety, this information should be presented in a standardized electronically-readable manner. Printing, rather than handwriting eye-readable phenotype results, in a standardized order is an important step in improved safety.

Standard 5.9.5 draft 30th Edition of the AABB Standards has been expanded to indicate that facilities must confirm information on the final label is correct; it is no longer limited to confirming only that the ABO/Rh is correct. Should this standard be finalized, electronically-readable information, with software that can support interpreting and recording the encoded information, would help facilities comply with this important safety measure.