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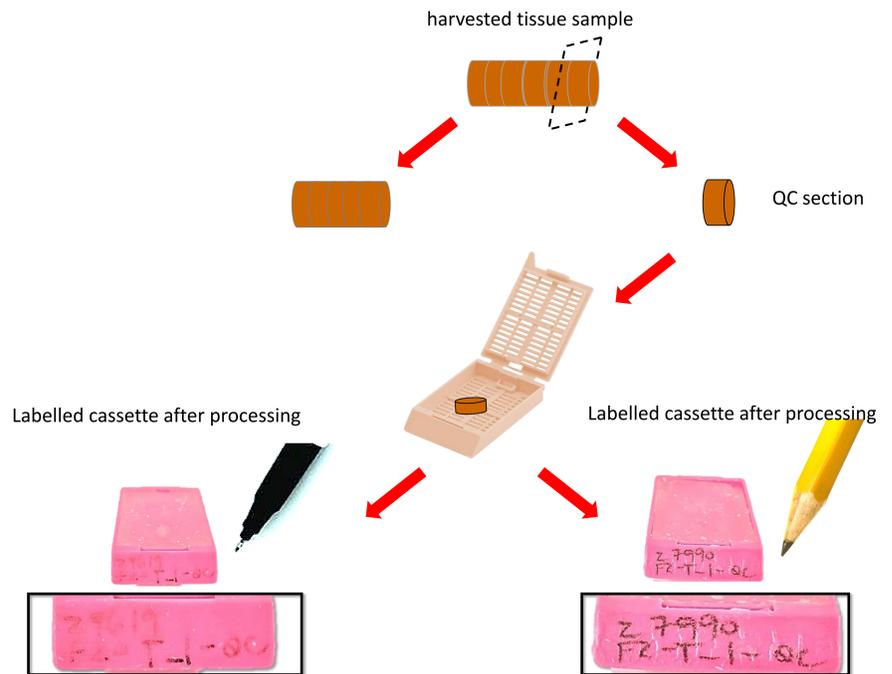
Pencil versus Marker in labelling Tissue Cassettes: A SingHealth Tissue Repository Experience

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BACKGROUND

- Each tissue sample harvested by STR has a corresponding quality control (QC) section that undergoes routine tissue processing.
- QC sections are placed in tissue cassettes and labelled with appropriate identifying details.
- STR uses Marienfeld® multi-purpose laboratory marker to label the tissue cassettes however most labels were found to fade/smudge after routine processing. This potentially led to misidentification of samples.
- Because of this incident, some STR personnel use 2B pencil because they found it more resistant to fading/smudging.



AIM

- To standardize the writing material used to label QC tissue cassettes, STR conducted a study to compare the resistance to fading/smudging of pencil against the commercially available marker.

CONCLUSION

- Overall, comparing the resistance percentage of pencil (98.5%) versus marker (76.5%), regardless of cassette used, we can therefore state that the pencil still outperforms marker in terms of its ability to resist fading/smudging.
- Pencil has then been the writing material used by STR staff members in labelling QC tissue cassettes.

LIMITATION

- Only one brand of tissue cassette marker was used in this study. Should further studies be conducted, the author recommends evaluation of different brands of marker pen against pencil.

METHODOLOGY

- The study included QC samples from tissues harvested from November to December 2015
- 4 labelling methods were used:
 - Marker
 - Marker on rubbed* cassette
 - Pencil
 - Pencil on rubbed* cassette
- Usage of these labelling methods were randomly assigned over the days of November to December 2015

*Writing surfaces (front and sides) on tissue cassettes were rubbed with eraser to remove the "shininess" and facilitate easier writing

RESULTS

- The total number of tissue cassettes for each labelling method was summated, as well as the total number of cassettes with faded labels after processing for each method of labelling (Table 1)
- "Resistance percentage" (i.e. resistance to fading/smudging) is computed as the number of cassettes with intact labels over total number of cassettes. This is computed for all 4 labelling methods.
- The average resistance percentages of marker and pencil were also computed.

Table 1. Distribution of labeled QC cassettes from November to December 2015

	Marker	Marker on rubbed cassette	Pencil	Pencil on rubbed cassette
Cassettes [total]	84	80	74	50
Cassettes with FADED/SMUDGED labels [total] After processing	28	11	2	0
Cassettes with INTACT labels [total] After processing	56	69	72	50
Resistance percentage	67%	86%	97%	100%
AVERAGE resistance percentage	Marker 76.5%		Pencil 98.5%	

November 2015

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2 Marker	3 Pencil	4 Marker with rubbed cassette	5 Pencil with rubbed cassette	6 Marker	7
8	9 Marker	10 Holiday	11 Marker with rubbed cassette	12 Pencil with rubbed cassette	13 Pencil	14
15	16 Marker	17 Pencil	18 Marker with rubbed cassette	19 Pencil with rubbed cassette	20 Marker with rubbed cassette	21
22	23 Marker	24 Pencil	25 Marker with rubbed cassette	26 Pencil with rubbed cassette	27 Pencil with rubbed cassette	28
29	30 Pencil					

December 2015

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3 Marker	4 Pencil with rubbed cassette	5 Marker with rubbed cassette	6 Marker	7
8	9 Pencil	10 Pencil with rubbed cassette	11 Marker with rubbed cassette	12 Marker	13 Pencil	14
15	16 Pencil with rubbed cassette	17 Marker with rubbed cassette	18 Marker	19 Pencil	20 Pencil with rubbed cassette	21
22	23 Marker with rubbed cassette	24 Marker	25 Pencil	26 Pencil with rubbed cassette	27 Holiday	28
29	30 Marker	31 Pencil	32 Pencil with rubbed cassette	33 Marker with rubbed cassette		