

**Comparison of Sterilin
Charcoal Transport Swabs,
TSC Charcoal Transport
Swabs, Medical Wire MW171
Charcoal Transport Swabs &
Copan M40 Transport Swabs
for the recovery of organisms
commonly found in clinical
specimens.**

Comparison of Sterilin Charcoal Transport Swabs, TSC Charcoal Transport Swabs, Medical Wire MW171 Charcoal Transport Swabs & Copan M40 Transport Swabs for the recovery of organisms commonly found in clinical specimens

Aim

To assess any differences between the Medical Wire Swabs, MW171 in comparison to the Sterilin charcoal transport swab, the TSC (Technical Services Consultants), and the new Copan M40 Transystem (also supplied by Sterilin). The tests were conducted in accordance with CLSI Standard M40-A.

Method

Overnight cultures of the following organisms were used:

H.influenzae

N.gonorrhoea

Strep.pneumoniae

Pseudomonas sp. was used to determine overgrowth.

0.5 McFarlands standard was prepared from an overnight culture in 0.85% Saline.
(0.5 McFarlands standard = 1.5×10^8 CFU)

4 , tenfold dilutions were made for the viability studies from the 0.5 McFarlands standard.

1+9ml	1+9ml	1+9ml	1+9ml
1.5×10^7	1.5×10^6	1.5×10^5	1.5×10^4

The 10^4 , 10^5 , and 10^6 cfu/ml dilutions were used to inoculate the swabs with 100µl (0.1ml) using 3x1/2 tubes.

The swab was placed in the 100µl inoculum for 10 seconds and then returned to the transport media.

Holding Times

5-15 mins (Zero Time)

4 hours

24 hours

48 hours

72 hours

These were done in duplicate,

- Room temperature
- 4°C

The plate was lawned as per a sensitivity plate.

Overgrowth studies

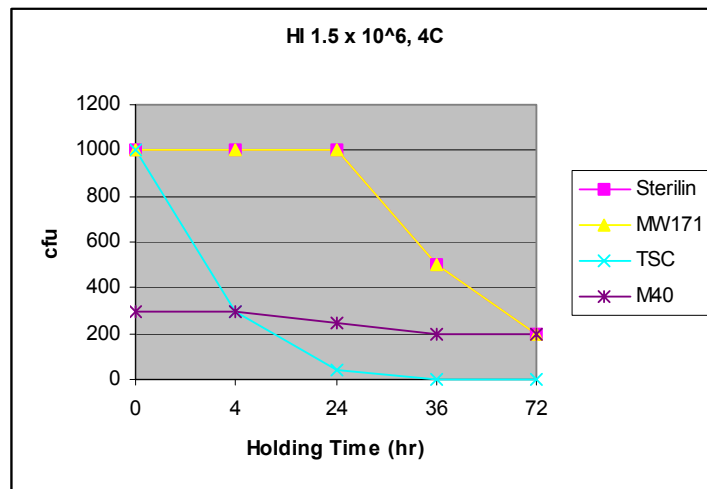
This was performed in duplicate on swabs held at 4°C.

Five tenfold serial dilutions were performed from the initial inoculum (1.5×10^8 cfu/ml) to provide a final inoculum of approx 1.5×10^3 cfu/ml, resulting in a swab inoculum of 10^2 .

Results

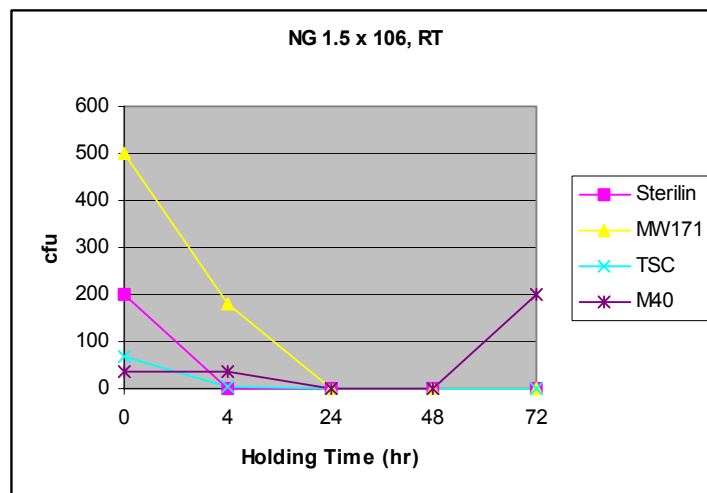
HI 1.5 x 10⁶, 4C

Holding Time (hr)	0	4	24	36	72
Sterilin	1000	1000	1000	500	200
MW171	1000	1000	1000	500	200
TSC	1000	300	40	1	0
M40	300	300	250	200	200



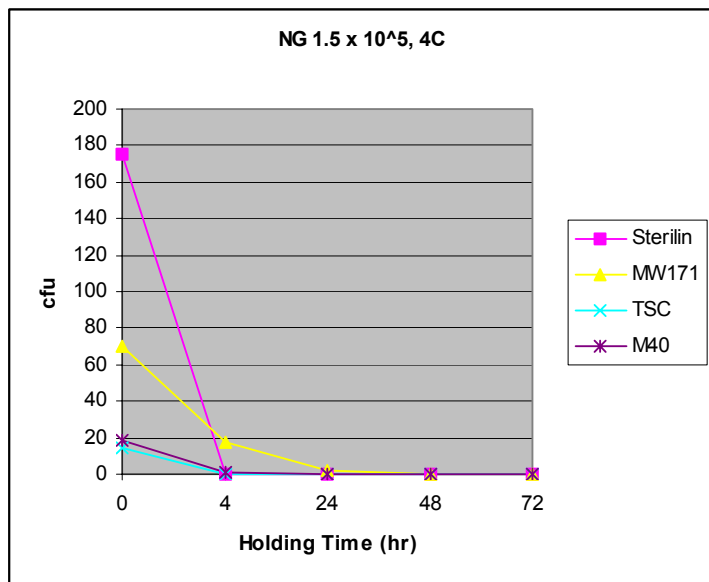
NG 1.5 x 10⁶, RT

Holding Time (hr)	0	4	24	48	72
Sterilin	200	..5	0	0	0
MW171	500	180	1	0	0
TSC	70	5	0	0	0
M40	35	35	0	0	200



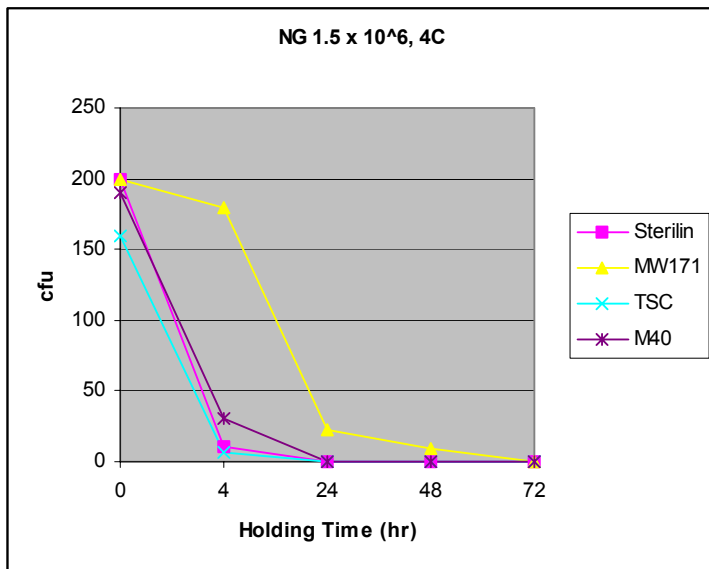
NG 1.5 x 10⁵, 4C

Holding Time (hr)	0	4	24	48	72
Sterilin	175	0	0	0	0
MW171	70	18	2	0	0
TSC	14	0	0	0	0
M40	19	1	0	0	0



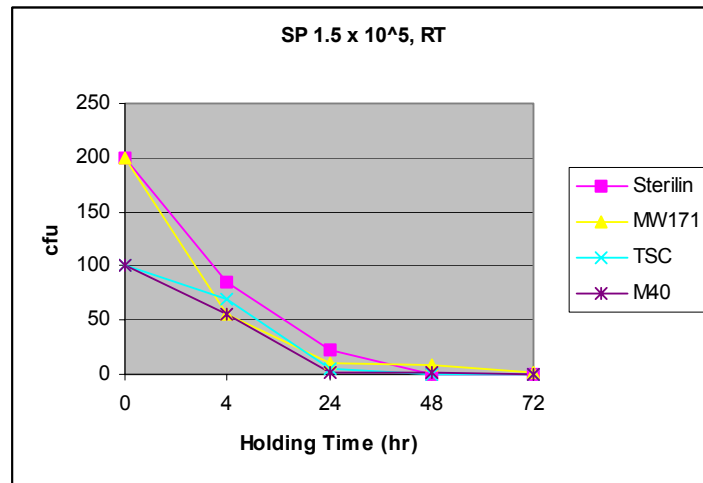
NG 1.5 x 10⁶, 4C

Holding Time (hr)	0	4	24	48	72
Sterilin	200	10	0	0	0
MW171	200	180	23	9	0
TSC	160	6	0	0	0
M40	190	30	0	0	0



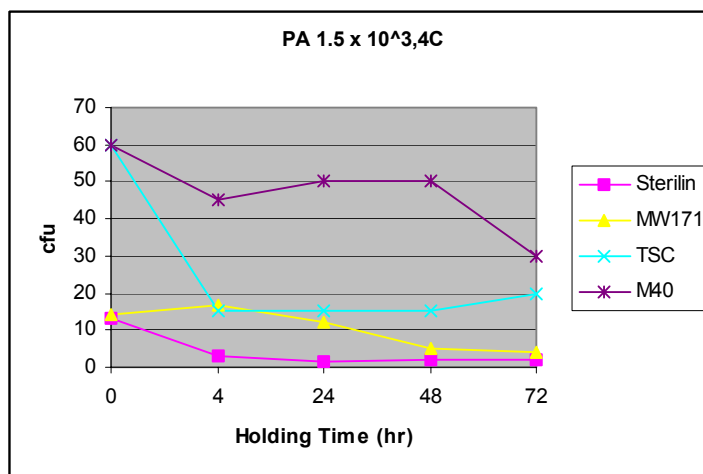
SP 1.5 x 10⁵, RT

Holding Time (hr)	0	4	24	48	72
Sterilin	200	85	22.5	0	0
MW171	200	55	11	9	1.5
TSC	100	70	6	0	0
M40	100	55	2	1	0



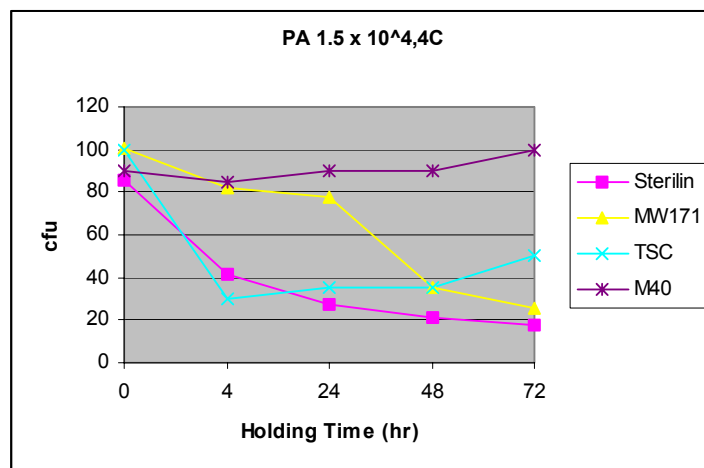
PA 1.5 x 10³, 4C

Holding Time (hr)	0	4	24	48	72
Sterilin	13	3	1.5	2	2
MW171	14	16.5	12	5	4
TSC	60	15	15	15	20
M40	60	45	50	50	30



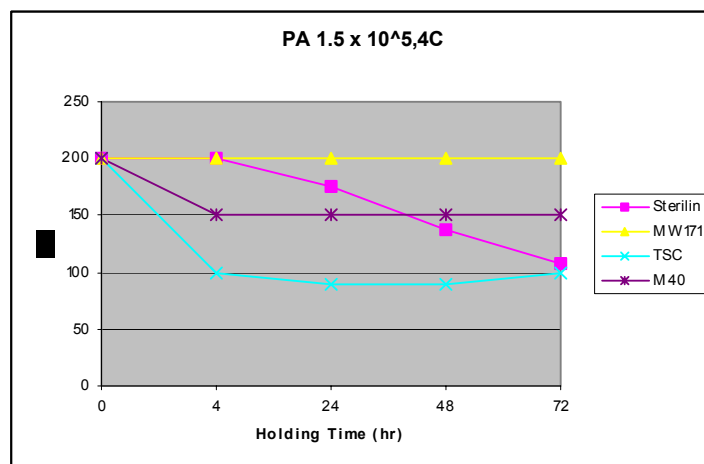
PA 1.5 x 10⁴,4C

Holding Time (hr)	0	4	24	48	72
Sterilin	86	41.5	27.5	21.5	17.5
MW171	100.5	82	77.5	35	25.5
TSC	100	30	35	35	50
M40	90	85	90	90	100



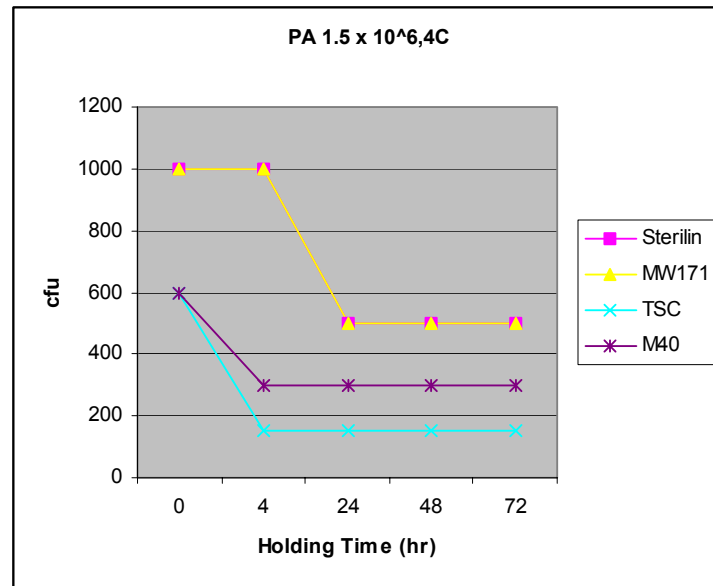
PA 1.5 x 10⁵,4C

Holding Time (hr)	0	4	24	48	72
Sterilin	200	200	175	138	107
MW171	200	200	200	200	200
TSC	200	100	90	90	100
M40	200	150	150	150	150



PA 1.5 x 10⁶,4C

Holding Time (hr)	0	4	24	48	72
Sterilin	1000	1000	500	500	500
MW171	1000	1000	500	500	500
TSC	600	150	150	150	150
M40	600	300	300	300	300



Conclusions

<i>Haemophilus influenzae</i>	Results virtually identical for both MW171 Transwab and Sterilin Charcoal Transport swab. The M40 swab maintained recovery well, but seemed to show poor organism release for zero time swab.
<i>Neisseria gonorrhoea</i>	MW171 Transwab showed superior recovery at both room temperature and 4C.
<i>Streptococcus pneumoniae</i>	MW171 Transwab and Sterilin Charcoal Transport swab achieved required recovery at 24 hr (Room temp.), but only MW171 achieved this at 48hr.
<i>Pseudomonas aeruginosa</i>	None of the swabs tested showed evidence of overgrowth at 4C.

Based on these results, the Medical Wire Charcoal Transwab (MW171) proved the most satisfactory in recovering a range of key pathogens.

Work completed by:

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